

September 30, 2015

Selection Committee  
Florida International University, Facilities Planning,  
Campus Support Complex, Room #142  
Modesto A. Maidique Campus, Miami, Florida 33199



REFERENCE: Proposal for the BT-904 | FIU: UNIVERSITYCITY PROSPERITY PROJECT

Dear Selection Committee:

As a proud FIU Alumnus, a Member of the Dean's Council for the School of Business, and recent recipient of the Torch Award for Distinguished Alumni, I am pleased to submit the MCM Team's Technical Proposal for the UniversityCity Prosperity Project, BT-904, which includes many benefits for achieving your vision of an innovative signature pedestrian bridge that will serve as an icon, a destination in its own right, and a respected and valued landmark.

MCM is a family-owned, Miami-headquartered design-build contractor specialized in Heavy Civil and General Building Construction with vast expertise building signature projects for over 30 years. MCM is a Gold-level LEED member, an ENR top-400 contractor, and our quality management system is ISO 9001-certified. Over 40% of our team members are FIU graduates which enhances our passion for success. FIGG delivers functional, iconic landmark bridges and is at the forefront of signature bridge design. FIGG bridges have received 356 awards for their Clients recognizing economy, innovation, sustainability, and aesthetics, including three Presidential Awards through the National Endowment for the Arts.

You will receive from the MCM+FIGG Team a one-of-a-kind bridge that is a contemporary sculpture that pays tribute to FIU and includes many remarkable features like:

- ✔ Full 30' pathway width for maximum space for many enjoyable uses
- ✔ 53% of pathway covered by structural canopy along the entire bridge
- ✔ Large bridge overlooks that provide enhanced staircase connections and greater gathering spaces
- ✔ Accelerated Bridge Construction (ABC) to build the entire span over the highway in a single night – this will showcase FIU's prominence in the international ABC marketplace
- ✔ A tapering pylon soaring to 109 feet with dramatic stays
- ✔ Feature lighting of the bridge at night with LED changeable, programmable lighting of the stays, pylon and walkway canopy
- ✔ Custom-designed elevator with glass walls
- ✔ Opportunities to incorporate solar technology and eco-friendly concrete

**THIS INNOVATIVE  
SIGNATURE BRIDGE  
WILL BE ACHIEVED  
WITH FIU'S VISION  
FOR:**

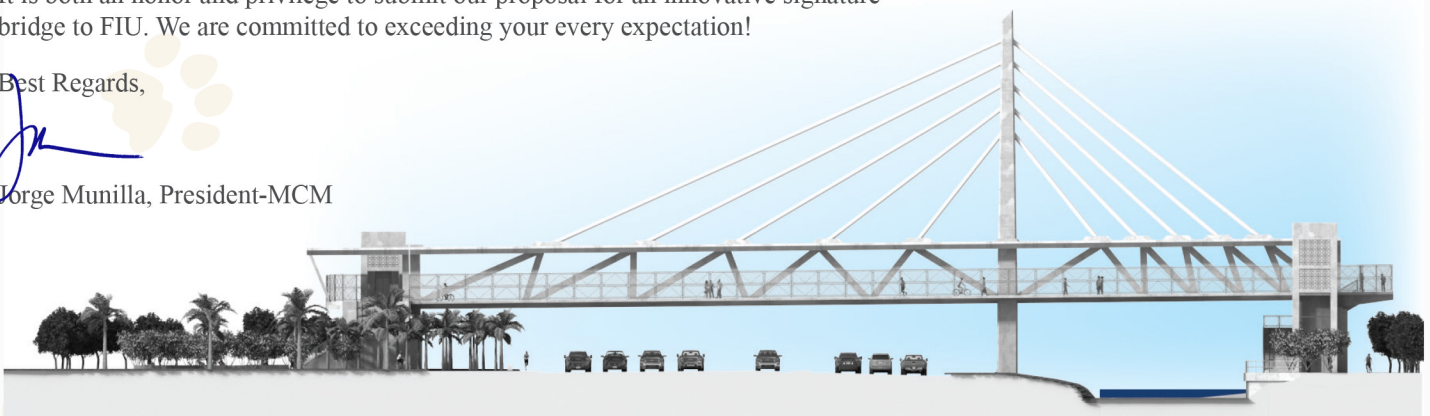
- ✔ Intent
- ✔ Clarity
- ✔ Value
- ✔ Innovation
- ✔ Safety
- ✔ Constructability
- ✔ Sustainable Design and Construction
- ✔ Universal Design
- ✔ Active Design

It is both an honor and privilege to submit our proposal for an innovative signature bridge to FIU. We are committed to exceeding your every expectation!

Best Regards,

A handwritten signature in blue ink, appearing to read 'Jorge Munilla'.

Jorge Munilla, President-MCM





# An Innovative Signature Bridge

*to celebrate*



## TECHNICAL SOLUTIONS

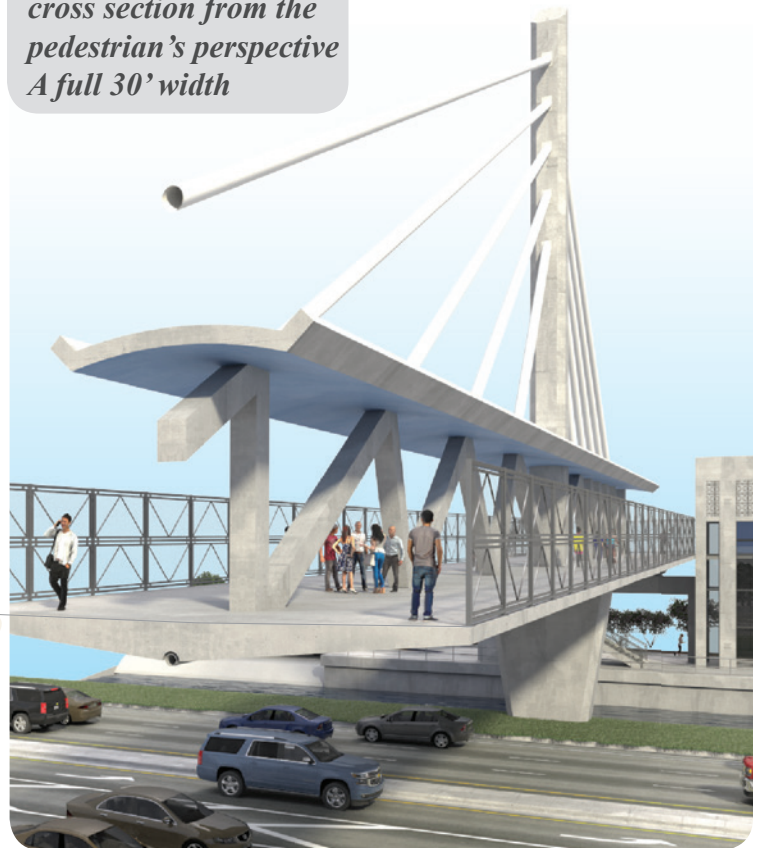
### THE VISION

Every bridge has a story. It begins with a vision. A vision that reflects the beauty of the community's sense of place. A bridge tells the story of the technology of its time and respects the natural and built environment in a holistic design. The features of FIU's New Pedestrian Bridge are a tribute to these principles. The values and vision for the new bridge has been described with words like: Signature, Innovative, Contemporary, Iconic, Outstanding, Landmark, Event Venue, Linear Park, and a Place to Linger and Gather.

### THE DESIGN APPROACH

From this vision a theme came to life as a unifying connection between the new bridge, the FIU campus, and the Miami community – A Bridge Worth Walking. This design approach is inspired by the values and vision of FIU and this theme. Archetypal design principles of blending shapes, creating shadows, selecting textures, choosing pleasing colors, opening new vistas, using native materials, creating feature lighting and incorporating landscaping were combined to create a bridge that celebrates and is inspired by FIU. Design and construction inspiration came from FIU's innovative research and technology, educational excellence, and commitment to sustainability.

*Rendering of bridge cross section from the pedestrian's perspective  
A full 30' width*





Accelerated Bridge Construction (ABC) techniques will be used to build the main span in one night. This will showcase FIU's national research center for ABC technologies. The main bridge will be constructed in an adjacent staging area and moved into place with a modular transporter.

Contemporary iconic cable structure provides an aesthetic gateway attracting people to enjoy a unique experience. The tapering pylon reaches a height of 109' feet.

The stay cable pipes increase bridge stiffness for pedestrian loads. Powder coated white for long term durability and to maximize opportunities for a variety of night time light colors on stays.

The functional shape of the structure includes a pedestrian concrete canopy 16' wide providing shade to 53% of the deck.

The bridge shape allows for easy accessibility to all areas for direct inspections. A low maintenance bridge with innovation for over 100 year life.

High performance concrete throughout the bridge with fly ash and silica fume admixtures creates a dense low permeable mix design for added strength and durability.

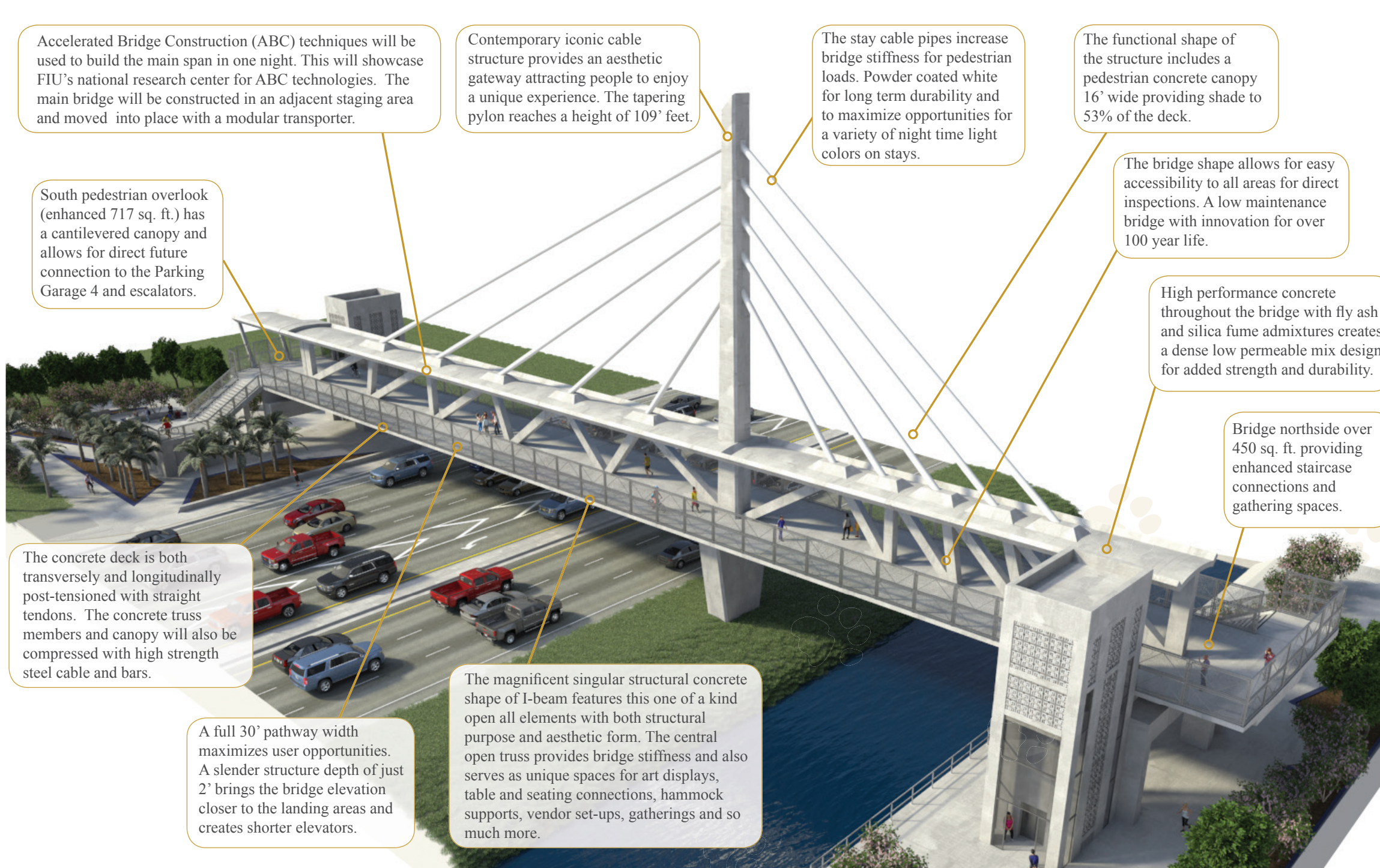
Bridge northside over 450 sq. ft. providing enhanced staircase connections and gathering spaces.

South pedestrian overlook (enhanced 717 sq. ft.) has a cantilevered canopy and allows for direct future connection to the Parking Garage 4 and escalators.

The concrete deck is both transversely and longitudinally post-tensioned with straight tendons. The concrete truss members and canopy will also be compressed with high strength steel cable and bars.

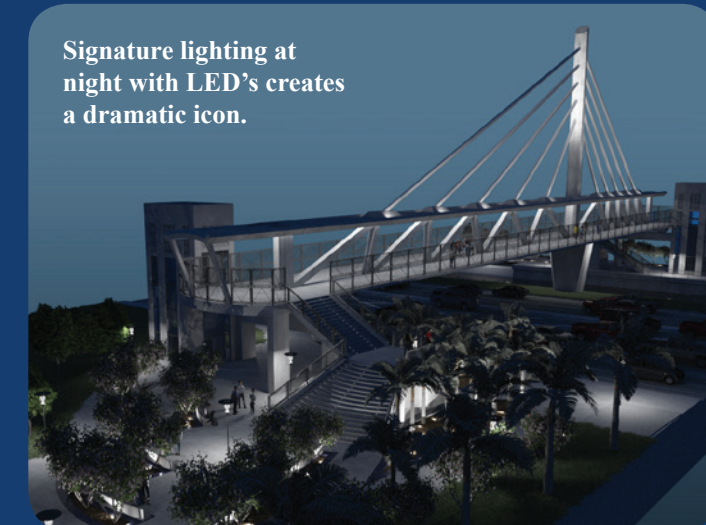
A full 30' pathway width maximizes user opportunities. A slender structure depth of just 2' brings the bridge elevation closer to the landing areas and creates shorter elevators.

The magnificent singular structural concrete shape of I-beam features this one of a kind open all elements with both structural purpose and aesthetic form. The central open truss provides bridge stiffness and also serves as unique spaces for art displays, table and seating connections, hammock supports, vendor set-ups, gatherings and so much more.



## A bridge worth walking ... in day or night

Signature lighting at night with LED's creates a dramatic icon.



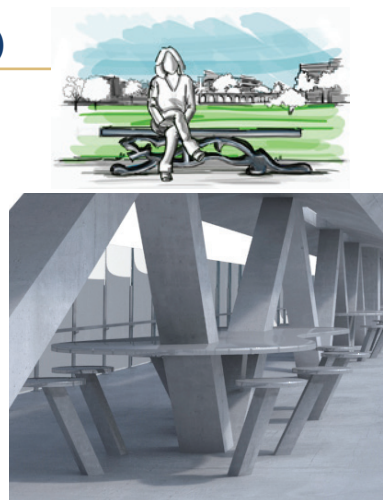
## AESTHETIC FEATURE OPTIONS FOR PAUSING (PAWS-ING)

Future amenities not included in the base bid



**Hammock hooks** between trusses to enjoy the peaceful nature of the canal while resting on the bridge

**Coffee carts or vendor carts** can be located on bridge overlooks between trusses or in the plaza area.



**Special seating areas** for lingering and gathering enhance user experience throughout project



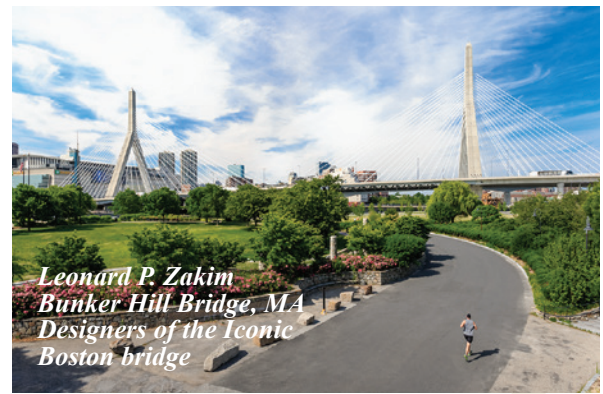
**LED lighting in the central canopy** highlight the truss shapes and provides safety lighting for users



# MCM+FIGG DESIGN BUILD TEAM



*Award of Superior Achievement for an Outstanding Safety Record by Florida Transportation Builders Association for seven consecutive years.*



## MCM

MCM will serve as the Design-Build (DB) Team leader and prime legal entity contracting with FIU. MCM is a Miami-Dade County owned contractor with a 32-year proven track record successfully delivering some of the largest infrastructure projects in South Florida. Incorporated in 1983 by the Munilla family in Miami-Dade County, bound by its mission statement of, ***“A builder committed to delivering total client satisfaction with an uncompromising dedication to quality”***, the firm specializes in providing DB and construction management services. The firm’s commitment to ethics and standards is a cornerstone that has been instilled in the company culture – making quality, integrity, and reliability an essential part of our work. Over 40% of the team at MCM are FIU graduates creating great pride in the opportunity to create an outstanding bridge for FIU and the community.

With an equipment fleet valued at over \$75 million, and state-of-the-art scheduling, budgeting, value engineering, and design-build expertise we are second to none. The growing number of enthusiastic, knowledgeable MCM personnel is our most valuable resource. They provide our on-site team with the finest technical support that includes cutting edge management information systems for cost control, scheduling and management reporting services. The dedication and hard work of MCM’s personnel has resulted in our ENR Top 400 ranking, as well as being named one of the fastest growing Hispanic- Owned Construction Firms in Florida.

## FIGG

FIGG is a family of engineering firms that specializes exclusively in bridges with a focus on signature sustainable design. Since 1978, FIGG companies have been pioneers in the bridge industry in the United States creating designs that blend timeless artistry and precise engineering. ***Form and beauty are applied with the technical solution to express the individuality of the people and places the FIGG-designed bridge will serve.***

Bridges designed by FIGG are purposeful works of art, functional sculptures within the landscape, that are created through a careful analysis of the site, contextual and environmental sensitivity, and a regional approach that encompasses a community’s particular needs, as well as the realities of funding and maintenance. FIGG’s exclusive focus on bridge design and construction engineering inspection enables us to provide state of the art technology, innovative aesthetics and materials, and a unique capacity to partner for research.

You will receive the resources of FIGG’s talented team that has won 356 bridge design awards for a signature bridges. FIGG is the only firm to receive 3 Presidential Awards for bridges through the National Endowment for the Arts which includes Florida’s Iconic Sunshine Skyway Bridge across Tampa Bay.



## KEY PERSONNEL

MCM will serve as the Design-Build (DB) Team Leader. Success on any design-build project is achieved with the quality and commitment of the core team leaders. The following leadership, with the support of key personnel, will be essential to efficient design and construction for a new, innovative, signature bridge and remarkable pedestrian experience for the FIU community. Resumes for the leaders given here and other team members is given in Section 2.

As the **Design-Build Manager**, MCM's **Joseph (Joe) Martin, P.E.**, has extensive experience in both design and construction. He will serve as the hub for communication between the design and construction teams, as well as the MCM+FIGG Team's single point of contact. Joe is a proactive communicator with all team members. He will lead the weekly meetings with key personnel of the team to ensure: 1) comprehensive coordination between design and construction; 2) progress of work meets the production schedule (and milestones); 3) resolution of pending issues and critical action items; and 4) that design and construction meet or exceed RFP requirements.

As the **Construction Project Manager**, MCM's **Rodrigo Isaza**, will provide project construction leadership and oversight. His similar recent experience includes the award winning I-95 Express Lanes Design-Build project in Miami-Dade County.

The project was completed significantly ahead of schedule including all FDOT established interim milestones.

As the **Visual Quality Designer and Sustainability Manager**, FIGG's **Linda Figg**, will personally lead the bridge aesthetics design and sustainability for the project. Linda's passion is bridge aesthetics and sustainability. She is an international speaker on Creating Bridges As Art® and has a passion for creating functional bridge sculpture. She will work closely with FIU, the design team, shareholders and agencies to ensure that every detail is thoughtfully, carefully, and fully addressed. The cornerstone of her bridge designs are that every detail matters.

As the **Design Manager**, FIGG's **Dwight Dempsey, P.E.** will provide essential leadership for the design of the new signature pedestrian bridge, ensuring the design schedule, quality and commitment. His experience includes design management of many Signature Bridges including a new pedestrian Signature Bridge for the Gateway to Florida's Capital City.

As the **Lead Technical Designer**, FIGG Engineering's **Denney Pate, P.E.**, will benefit the project with his extensive experience in design of over 30 complex, signature cable-supported bridges. He was a lead designer of the Sunshine Skyway Bridge, FL and the Zakim Bridge in Boston. Denney and Linda work as a team merging function and form into each bridge masterpiece. His creative engineering ideas will deliver a cost-effective, eco-friendly and innovative bridge, focused on constructability, quality and beauty.



**Broadway Bridge, Daytona Bridge, FL**  
**"Daytona's newest Permanent Art Exhibit"**  
—Orlando Sentinel



**I-35W Bridge, MN**



**Wabasha Freedom Bridge, MN**



*Rendering of your innovative signature bridge view looking east with FIU on the south – a one of a kind design landmark inspired by FIU*



## PROJECT REQUIREMENTS

The innovative signature bridge proposed by the MCM+FIGG Design-Build Team will become a valued design landmark in Miami. Through our commitment to design excellence, it will also provide numerous benefits and opportunities, including:

- ✓ A safe and efficient crossing for pedestrians and cyclists venturing to and from campus
- ✓ A destination for the community to linger, gather, and enjoy
- ✓ An urban social space and linear park
- ✓ An event venue

In addition to a new iconic bridge, the project will have open spaces of outstanding architectural value that will connect Sweetwater and FIU, including:

- ✓ Advanced Intermodal Station (AIMS) Platform
- ✓ FIU Pedestrian Bridge Plaza
- ✓ Pedestrian Bridge North Landing Plaza (City of Sweetwater)
- ✓ SW 109th Avenue - south block (SW 7th Terrace to SW 7th Street)
- ✓ SW 109th Avenue - north blocks (SW 7th Street to SW 6th Street)

Concepts for additional alternate areas are also approved for adjacent areas, including:

- ✓ Campus Pedestrian Access - SW 109th Avenue / PG-4
- ✓ Campus Pedestrian Access - SW 10th Street (north side) / PG-4
- ✓ Campus Pedestrian Access - SW 10th Street (south side) / Academic Health Center
- ✓ Conservatory Plaza
- ✓ Conservatory - Lake Pedestrian Link
- ✓ Lake Overlook Boardwalk
- ✓ Lake - Library Pedestrian Link

## PROJECT BACKGROUND

As with any project, there are always important aspects that could play a role affecting construction but may not be directly attributable to the actual construction of the project. Through our past local experiences, our Team has properly identified these aspects and prepared plans to address them. The following are some things that we have planned for:

**Special events** – In order to ensure all FIU and surrounding community special events (including but not limited to concerts, football, basketball, or baseball games, parades, etc.) are not impacted by our construction, as identified in our coordination plan, we will follow up with the FIU, FDOT and City of



Sweetwater PIO personnel to ensure construction is scheduled to keep traffic flowing. This transparency between the local stakeholders and our project will ensure the public, as well as our project Team is well informed so that each other's operations runs smoothly.

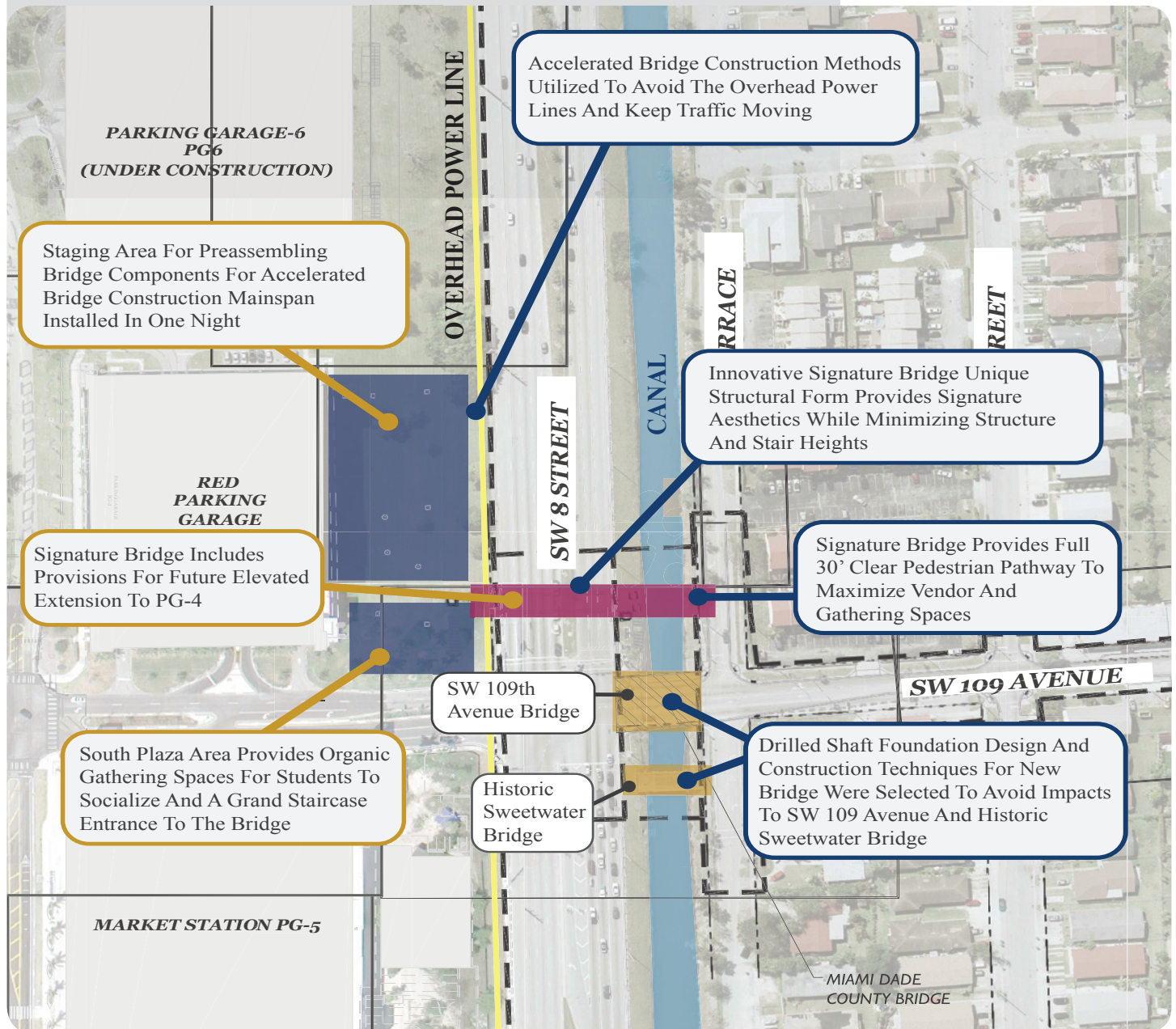
**Hurricane Evacuation Plan** – as part of our Teams Incident Management Plan, an entire section will be dedicated to our hurricane preparedness and recovery activities. Our plan includes not only when we secure our site, but how to prepare our traffic control devices and possible vacating of the SFWMD C-4 Canal right-of-way.

**Other construction work within FIU** – As our project progresses we are aware adjacent properties will be under construction simultaneously with ours. We are very familiar with working on projects with other ongoing projects progressing on adjacent properties, and are committed to be good neighbors with the adjacent activities.

**Utility relocation** – As a major component to this project, the FPL Transmission Main will need to be adjusted to increase the vertical clearances between the proposed pedestrian bridge structure and the facility. Our Team has taken this into consideration with the pre-casting of the main span of the bridge in a phase that provides sufficient time for FPL to complete these activities prior to transporting the pre-cast superstructure into its final location.

**Permitting** – As with any Design Build project, the responsibility of obtaining environmental permits rests with the Design-Build Team. We have prepared the requisite permit applications, constructed in, around and over several SFWMD Canals within the past few years. We have created valuable relationships and an appreciation and understanding of the overall process to ensure the success of this bridge.

### PROJECT LAYOUT AND SOLUTIONS MAP



## CONTEXT-SENSITIVE BUDGET

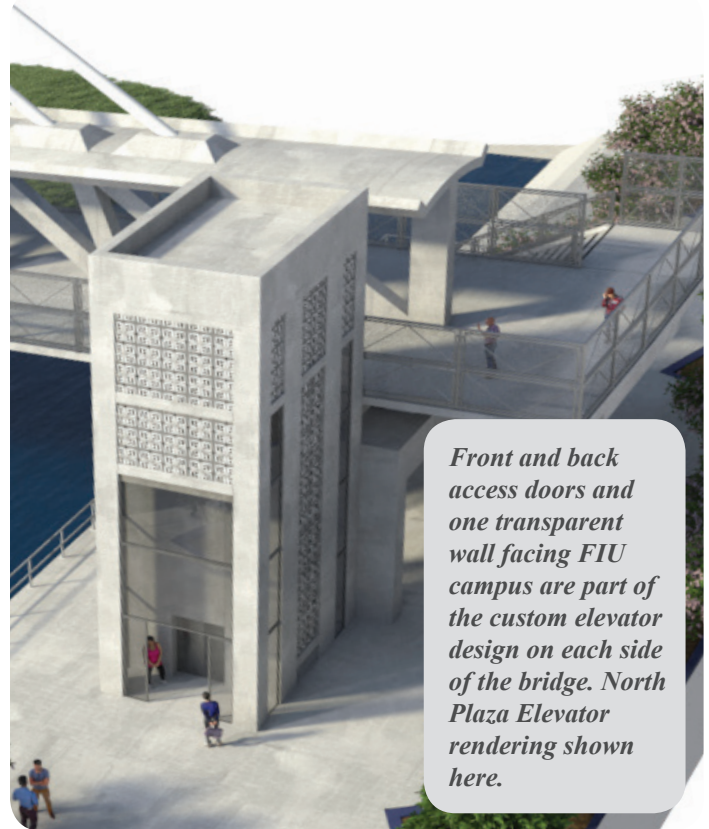
The biggest challenge of this project has been to determine how to deliver FIU with an iconic signature bridge structure, representing the intent, clarity, value, innovation, safety, constructability, sustainable universal design and construction, and active design as outlined in the RFP to be a gateway into the campus, a design landmark in Miami to serve the needs of FIU pedestrians and spark development in UniversityCity that will be a gathering place for students, faculty, families and friends within the Maximum Bid Price of \$9,388,076. Our goal is to provide the essential elements as listed above and within the RFP requirements and, in addition, provide FIU with other options unique to this signature design, that are not required in the RFP, but can be added after award or in the future as funding becomes available. These added elements would further enhance the uses of the bridge.

In terms of optimizing the budget for purposes of delivering a signature bridge, we see budget improvement opportunities in features within the project but not specifically adjacent to the signature bridge. Specifically, the hardscape proposed in the concept plans represents 5% of the Maximum Bid Price. The MCM team has done its best to trim the cost of these items and has managed to remain compliant with the RFP requirements. The requirement for Silva Cells or equivalent structural soil is also a significant cost proportional to the project, and, in fact, raises the question of cost benefit ratio, considering the true difference in expectations of long term health and well-being of trees and plants with Silva Cell construction and those with proper soil excavation and preparations. MCM has incorporated an “or equal” into our proposal and based upon cost savings can actual include more areas within the project to utilize this soil.

Other aspects of budget that have presented a challenge include the elevators and the lighting for the bridge and plaza areas. The elevators have unique requirements that have added what we believe to be greater than normal expense. This includes the front and back access doors as well as the glazing required for both the elevator cars and elevator shafts. The lighting requirements have also added cost greater than expected with specific makes and models of fixtures and the number of fixtures. MCM is actively investigating equivalent fixtures to meet the standard of “or equal” and remain fully compliant with the RFP.

## UTILITIZING LOCAL LABOR

MCM is headquartered in South Miami-Dade County. The majority of our workforce resides within the County, with most of MCM current projects located within the County. MCM is fully aware of the improved construction market demand and has selectively pursued projects that it can fully staff and deliver timely, safely, with quality, and always with the goal to exceed our customers expectations. MCM’s current capacity with FDOT is \$749,150,000. Our total work on hand is \$161,104,576. Our work on hand represents 21.5% of our capacity and this project would represent an additional 1.25% of our capacity. We have the manpower, supervision and equipment to complete this project, as intended, well in advance of the maximum allowable time.



*Front and back access doors and one transparent wall facing FIU campus are part of the custom elevator design on each side of the bridge. North Plaza Elevator rendering shown here.*

MCM self performs the construction of a majority of key structural bridge elements as well as roadway items of work. For this project, MCM will self-perform foundation work including piling, spread footings, bulkhead wall and cap. MCM will self-perform pre-cast and cast-in-place structural concrete with its own forces. This will include both substructure and superstructure elements. MCM has pre-qualified subcontractors to perform specialty work such as drilled shafts and post tensioning on site as well as superstructure transport. We will staff the foundation and substructure concrete crew ranging between 7 and 10 persons. This crew will be on site to complete foundations and substructure work. Concurrently with this work we will be constructing superstructure elements of the bridge adjacent to SW 8th Street. MCM will expect to have a superstructure crew ranging between 12 to 18 people depending on access and productivity. This crew will ramp up in size as the fabrication site is prepared and bridge work elements become available. Once the main span is fabricated this crew will follow to assist the cast in place span over the canal. MCM will also dispatch a crew of 7-10 people to cast the pylon and install the bridge stays once the superstructure main span is set followed by the stays for the canal span.

MCM will engage the services of prequalified subcontractors for the hardscape, flatwork, lighting, signalization, irrigation, and landscaping elements of the project. Most of the proposed subcontractors have longstanding relationships with MCM and are currently available to complete the work according to the project schedule.



# SAFETY PROGRAMS

Providing a safe, healthy, and environmentally-friendly workplace is a high priority for our Team. MCM takes a “Safety First” approach to health and safety on all projects. With a lower value equating to a higher safety score, **MCM has received the Florida Transportation Builders Association (FTBA) Award for Excellence in Safety for the past seven years. MCM’s current EMR is 0.73.** Our ability to maintain such impressive safety figures is the result of a broad-based approach to ensuring workplace safety. Moreover, MCM employs formally educated safety professionals who are trained in Safety Management and OSHA compliance. **Eddie Martinez, MCM’s Corporate Safety Manager,** is responsible for our robust safety program and will implement a project-specific safety plan that is in strict compliance with all OSHA regulations. For this project, MCM will assign a full-time safety manager. Our philosophy with each project we build is to achieve zero incidents with regard to employee health and safety. **Under our safety program, MCM has, over the past four years, performed over 2.5 million staff-hours of work with no loss time accidents.**



## SPECIAL SAFETY PROCEDURES

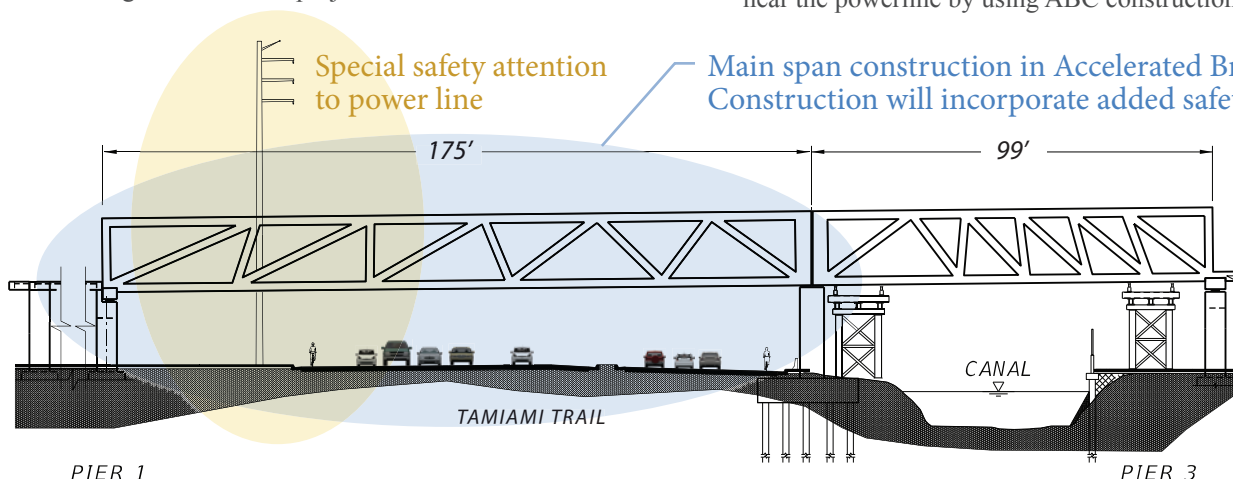
MCM believes that worker and public safety is paramount and protocols are established for all parties entering the facility including FIU and FDOT personnel and our Team workers. This belief is coupled with our Number One Goal of providing an injury-free project. Our work zone will be near pedestrians and motorists that need to be kept safe during our construction operations. As part of our commitment to an injury-free work environment, we believe all accidents are preventable and by employing site-specific safety programs we address hazards and implement prevention methods by:

- ✓ Providing dedicated pedestrian routes shielded from Construction Work Areas.
- ✓ Providing on-site staff certified in Advanced Work Zone Traffic control and conduct weekly safety meetings.
- ✓ Minimizing traffic shifts and temporary lane closures throughout the entire project.

- ✓ Coordinating with FIU and FDOT’s Public Involvement Personnel for advance notification of any traffic shifts or temporary lane closures.
- ✓ Minimizing night time operations, however if required, provide adequate shielded and directed illumination
- ✓ Incorporating off-duty officers and portable changeable message signs (PCMS).
- ✓ Using radar speed display units to alert motorists.
- ✓ Incorporating temporary barrier wall in critical areas for separation of vehicles, pedestrians, and workers.
- ✓ Complying with OSHA regulations and providing employees with approved protection equipment.
- ✓ Implementing Critical Lift Plan to address dual crane lifts.
- ✓ Submitting erection drawings with 150% of required carrying capacity.
- ✓ Staging construction equipment and material in protected areas outside of clear recovery areas and away from pedestrians.
- ✓ Conducting pre-task safety meetings.
- ✓ Confirming all project personnel possesses an OSHA 10 Hour certification at a minimum, with all foremen and above having a minimum of an OSHA 30 certification.
- ✓ Enforcing mandatory site safety orientation for all work site personnel.



Areas of additional particular significance on the project are construction activities near the powerlines and when the bridge superstructure mainspan is placed in Accelerated Bridge Construction (ABC) in a singular piece across the highway. Detailed safety briefings and procedures will be addressed before operations in each of these key, high hazard zones of extra significance. We have already improved the safety of building near the powerline by using ABC construction without cranes.



Plan view of bridge location and site

## SEQUENCE OF CONSTRUCTION AND MAINTENANCE PLAN

The MCM+FIGG Team understands the importance of constructing this facility ensuring the highest levels of safety and with consideration to the FIU community, the traveling public, and all workers. Our Team’s design and construction professionals have spent considerable time developing and refining maintenance of traffic concepts and investigating specific design elements such as retaining walls, drainage, roadway geometry, and cross section elements to ensure safety, constructability, and quality. Our Team’s experience on other major Design Build projects have enlightened us, as lessons’ learned, that creating a successful Maintenance of Traffic (MOT) Plan requires that the MOT be developed in concert with a well thought out construction sequence by minimizing lane alignment shifts and expediting the pedestrian bridge construction, landscape/hardscape construction and roadway milling and resurfacing.

By developing the construction sequence and MOT plans collectively, through an iterative process, a logical and safe Execution Plan will result. Traffic Control for this project can be divided into 3 Major Phases (Phase I, Phase II, and Phase III) and 1 Minor Phase (Phase IIIB ). These phases, including key elements of the construction sequence are discussed below:

### Phase I (Major Phase) – Pedestrian Bridge Construction by shifting WB SW 8TH Street Traffic to the Inside and the permanent closure of SW 7TH Terrace:

- ✔ Prepare Secure Work Zone (pre-cast yard) within FIU Campus on the southwest corner of SW 8th Street and SW 109th Avenue. Begin pre-cast of main span and construction of South Tower. (staging area)
- ✔ Restripe the 3 existing WB SW 8th Street thru lanes to 2-10’ Lanes, and 1-11’ Lane. Work to be done with night time lane closures. Shift traffic to the inside and install channelization devices and temporary barrier wall along the outside of WB Traffic in order to capture Pylon foundation work zone.
- ✔ During off peak hours restripe the west end of SW 7th Terrace and install Type III Barricades for the closure of SW 7th Terrace. Begin construction of the North Tower for the Pedestrian Bridge.
- ✔ Maintain sidewalk along North Side of SW 7th Terrace and SW 109th Avenue open for pedestrian use throughout duration of this phase.
- ✔ Once South Tower, Center Pylon below proposed deck grade, and Main Span precast are complete, initiate off-peak road closure of SW 8th Street utilizing detours to divert traffic, to allow transport of Main Span erecting/jacking into place.
- ✔ Once Main Span is erected, additional work to complete the Main Span construction will be performed over off peak lane closures. The sidewalk running adjacent to SW 8th Street along south side, will be covered with a



temporary canopy to ensure pedestrians are protected from any debris falling from the bridge.

- ✔ As North Tower is completed, continue north span cast in place construction.

### Phase II (Major Phase) – Construction along the West Side of SW 109th Avenue:

- ✔ During off peak hours restripe 109th Avenue North of SW 8th Street. Shift Southbound thru lane into existing center DLT (Dual Left Turn) lane. Install channelization devices along the west side of SW 109th Avenue.
- ✔ Maintain sidewalk along East side of 109th Avenue open for use.
- ✔ Retrofit existing barrier along West Side of Bridge (SW 109th Avenue) over C-4 Canal.
- ✔ Construct proposed drainage improvements.
- ✔ Install proposed lighting.
- ✔ Construct proposed curbs and sidewalk. Install landscaping in planter areas.
- ✔ Complete work along SW 7th Terrace, west of 109th Avenue.

### Phase III (Major Phase) – Construction along the East Side of SW 109th Avenue:

- ✔ Open sidewalk along the west side of SW 109th Avenue, connecting to hardscape built with North Tower.
- ✔ Restripe 109th Avenue & Shift traffic to the West.
- ✔ Install Channelization Devices along East side of SW 109th Avenue.
- ✔ Construct proposed barrier wall and retrofit existing bridge barrier (109th Avenue) along East side of Bridge (SW 109th Avenue) over C-4 Canal.
- ✔ Construct proposed drainage Improvements along East side of 109th Avenue.
- ✔ Install proposed curbs and sidewalk. Install landscaping in planter areas.



*MCM Team will maximize the safety of workers and the traveling public, as well as keep traffic flowing.*



### **Phase IIIB (Minor Phase) – Milling & Resurfacing and Final Striping :**

Complete Milling & Resurfacing and final striping.

As our Teams commitment to creating a safe and efficient work zone, the following items highlight some of our MOT Plan enhancements:

- ✔ Where lane closures are necessary, provide proper and timely notification to FIU, FDOT, City of Sweetwater, local agencies, and public information outlets.
- ✔ Providing an experienced MOT supervisor on site during active work periods to oversee initial setup of MOT devices, work zone monitoring, direct immediate adjustments as necessary, and inspect and maintain all MOT devices on a daily basis.
- ✔ Special emphasis will be placed on maximizing separation between work crews and the traveling public. All required barrier wall offsets and clearances to drop-offs, etc., will be maintained and monitored for compliance on a regular basis.
- ✔ Deliveries of materials will be scheduled with consideration of peak traffic times. When possible, we will perform “high visibility” activities that could distract drivers during off-peak hours.
- ✔ We will utilize appropriate lighting levels throughout construction activities and furnish temporary barrier walls where needed within work zones to provide a safe environment for workers and motorists.
- ✔ We will maintain VMS boards on the project site to be used for incident response and to provide notice of pending changes in traffic patterns.
- ✔ Off-duty law enforcement officers will be utilized to enhance safety during lane closures and other potentially disruptive operations.

By incorporating these and other components into our plan, the MCM Team will maximize the safety of workers and the traveling public, as well as keep traffic moving. Our Team is experienced at working both day and night operations and will stage all work to take advantage of opportunities to efficiently pursue construction with the least impact to motorists and residents.

## **MAINTAINING TRAFFIC AND ACCESSIBILITY**

Maintaining pedestrian access in compliance with American Disabilities Act (ADA), in a safe and efficient manner that will promote the use the designated pedestrian route is imperative. In order to achieve this goal, our construction will be sequenced to limit the impacts to the existing pedestrian routes along SW 109th Avenue from north of SW 6th Street to south of Campus Drive to the greatest extent possible. Once our proposed bridge is nearing completion, we will close the pedestrian route on the west side of the SW 109th Avenue, provide roadway crossing in conformance with ADA and FDOT Standard Index 600 and 660, and maintain the existing pedestrian route on the east side of the roadway. The exception to this closure will be between SW 6th and SW 7th Street where the business frontage is adjacent to the west roadway R/W, in this area the sidewalk will be maintained and reconstructed in sub-phases using a combination of weekend and night work to ensure access to the business will be maintained during regular business hours. Once the newly constructed landscape/hardscape and pedestrian route is completed on the west side of SW 109th Avenue, pedestrian traffic will be shifted to the west side, using the same ADA and FDOT criteria, of the facility. Once pedestrian traffic is switched, landscape/hardscape work on the east side of SW 109th Avenue will commence.

Along SW 8th Street, the existing sidewalk will be maintained using orange construction fencing channelizing pedestrians away from our proposed main span superstructure pre-cast area. A temporary canopy will also be erected in the vicinity of the main span crossing the sidewalk to provide extra pedestrian protection against any debris that may fall from the newly erected main span crossing the sidewalk. It should be noted that temporary closure of this sidewalk will only take place during the actual main span erection/jacking into its final location.

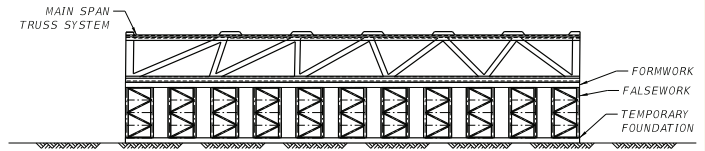
This same methodology and design criteria used for SW 109th Avenue will be utilized for all phases of the Alternate 1 as well as the AIMS construction. Throughout the entire construction process, pedestrian traffic and access will be maintained on at least one side of the roadway at all times. All signage, mid block crossings, and sidewalk closures will meet all ADA and FDOT criteria. Properly placed way signs and advance closure signage will ensure that the pedestrian access is maintained in the most efficient manner to encourage the use of the designated routes to divert pedestrian away from active work zones. Furthermore, temporary orange construction fencing will be erected around our construction work zone to add further protection for pedestrians from inadvertently entering the work zone.

# ACCELERATED BRIDGE CONSTRUCTION

Utilizing the Accelerated Bridge Construction (ABC) method for your bridge offers numerous benefits over conventional construction methods over traffic.

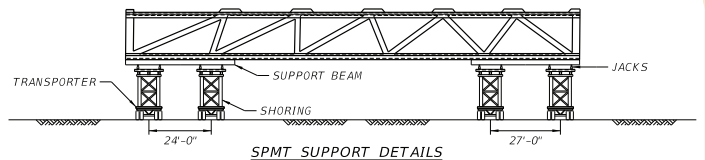
- ✓ Main span will be precast, which includes no required formwork set over roadway for cast-in-place superstructure components. This creates a quicker construction schedule as the bridge superstructure can be cast in the adjacent Bridge Staging Area and the entire main span can be placed in one night.
- ✓ The precast main span will be placed using a Self Propelled Modular Transporter (SPMT), so no cranes needed to place superstructure. This avoids the overhead height restrictions of using a crane near the power lines on the south end of the project.
- ✓ Shortest on-site construction time, which improves work zone safety for vehicular traffic/pedestrians and construction workers.

## TEMPORARY SUPPORT SYSTEM & BRIDGE MOVEMENT SYSTEM



TEMPORARY SUPPORT CONDITION - PRECASTING

Temporary foundation support in staging area adds extra support for south plaza area once bridge is built.

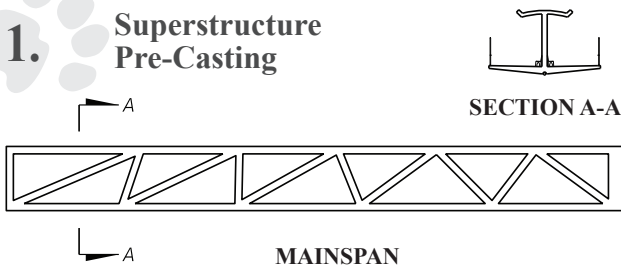


SPMT SUPPORT DETAILS

Self-Propelled Modular Transporter (SPMT) for ABC Construction.

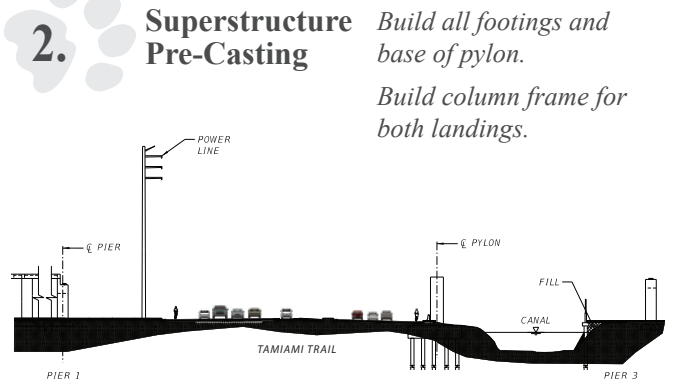
## STEP-BY-STEP FOR ACCELERATED BRIDGE CONSTRUCTION

### 1. Superstructure Pre-Casting



Cast main span superstructure including deck and canopy. Stress bottom slab transverse post-tensioning and longitudinal post-tensioning with straight tendons. Create outstanding durability.

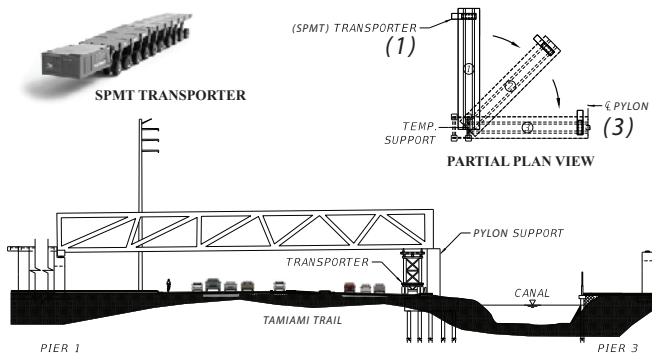
### 2. Superstructure Pre-Casting



Build all footings and base of pylon. Build column frame for both landings.

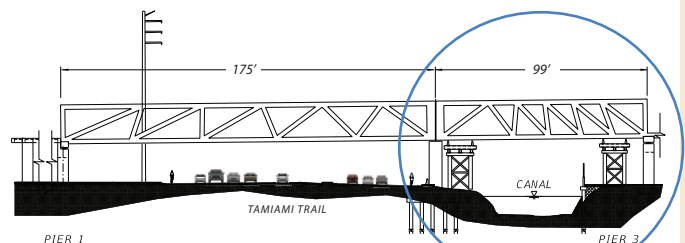
### 3. Position Main span

Rotate main span from the casting position (1) to the final position (3). Install bearing pads at pier 1 and remove temporary support. Secure truss at pylon support.



### 4. Casting Of Back Span

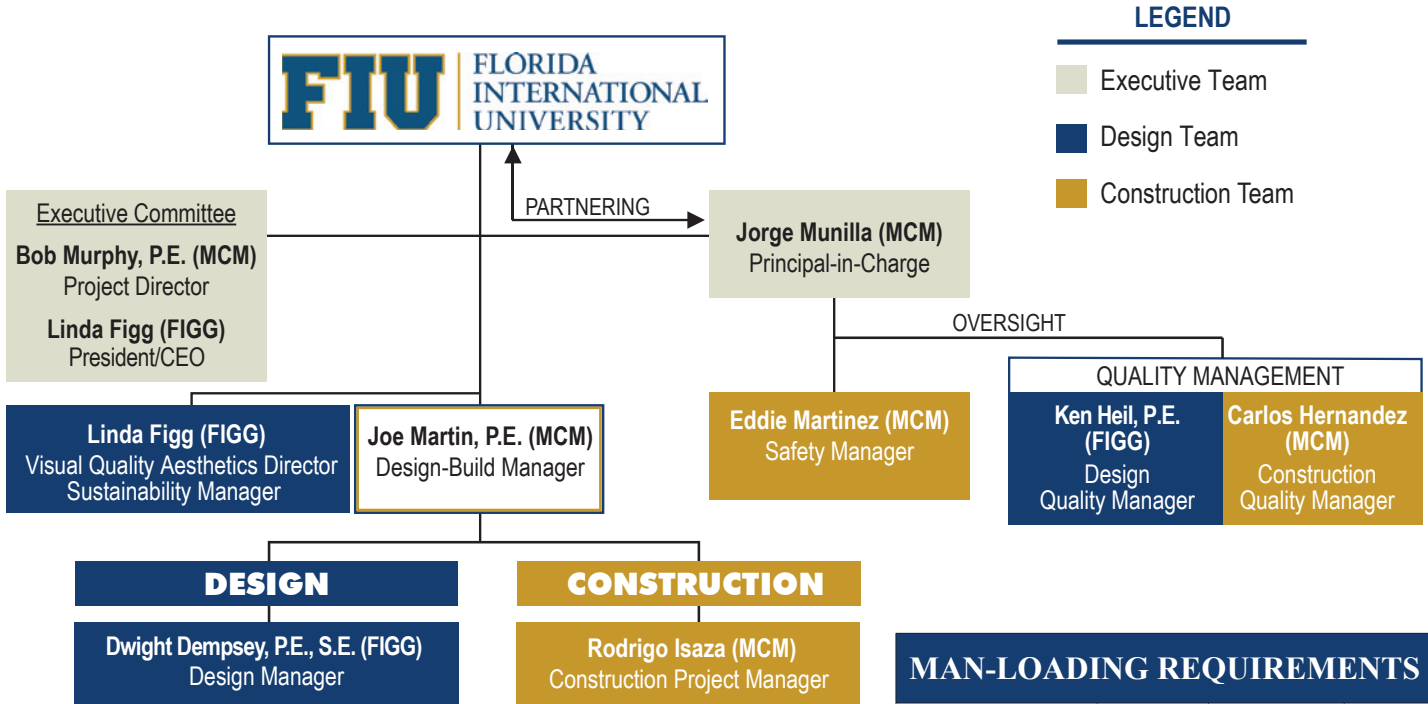
Erect temporary falsework on banks of canal. Install bearing pads at pier 3. Cast deck, truss and canopy. Construction of pylon and stays follows with superstructure fully secured as a construction platform.





# MANAGEMENT & QUALITY CONTROL

## Management Team Organizational Chart

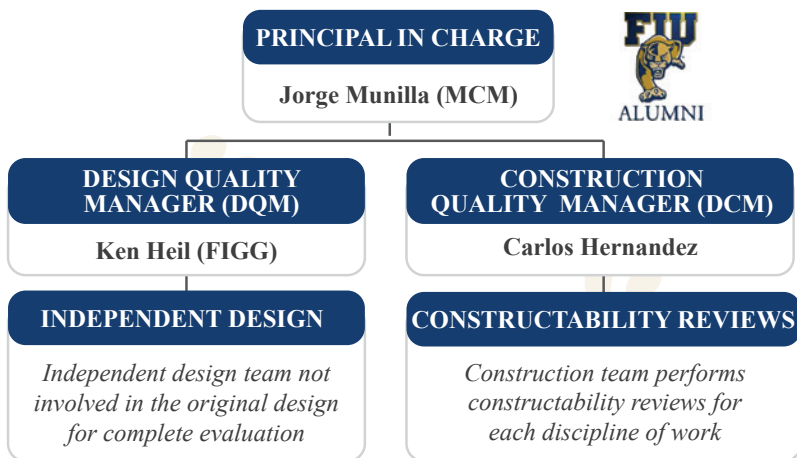


*Quality Control will be established, implemented, and maintained through a Quality Management Plan, which will include a Design Quality Management Plan (DQMP) and a Construction Quality Control Plan (CQCP). Additional details regarding this plan are available in Section 5: Quality Management Plan.*

### MAN-LOADING REQUIREMENTS

Team Member	Required	Team Availability	Reserve Capacity
<b>CONSTRUCTION</b>			
DB Project Manager	1	3	2
Construction Project Manager	1	32	31
Project Superintendents	2	36	34
Project Engineers	2	26	24
MOT Crews	1	4	3
Construction Quality Control	1	12	11
Administration	1	45	44
<b>DESIGN</b>			
Design Project Manager	1	10	9
Bridge/Structures	4	50	46
Geotech	1	3	2
Geotech Drilling Crew	1	6	5
Roadway & Civil	3	6	3
Drainage	1	2	1
Utilities	1	2	1
Landscape/Hardscape	4	14	10
Survey	2	12	10
Field Survey Crew (3 man crew)	1	8	7
Aesthetic Lighting	4	7	3
Mechanical/Electrical/Plumbing	2	6	4

## QUALITY CONTROL ORGANIZATION CHART





## SCHEDULE

	2015		2016											2017					2016														
	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M		
Anticipated Award Date	★																																
Design Schedule																																	
Design Reviews by the Owner																																	
Geotechnical Investigations/Surveys																																	
Permitting																																	
Start of Construction																																	
Construction Milestones																																	
Precast Main Span Superstructure																																	
Complete Cast-In-Place Span																																	
Complete Pylon																																	
Install Elevators																																	
Cast Landing Stairways																																	
Construction Phasing and Major MOT shifts																																	
Utility Relocations																																	
Structure Completion Date																																	
Final Completion																																	

## PROJECT CLOSE-OUT

MCM firmly believes that project closeout is as important as pre-construction and construction services. We begin the closeout procedure during pre-construction and start of the construction phase of the project, establishing certain guidelines and requirements to ensure that trades, subcontractors and suppliers complete all aspects of the project.

Project Closeout consists of several steps. First, during all stages of the project, MCM creates lists of items that are pending and/or need finishing prior to substantial completion. We share this list internally and with the applicable corresponding sub-contractor with a time frame to complete. Once that list is completed then Substantial Completion is requested from the owner and secured. Upon substantial completion MCM along with FIU, City of Sweetwater and FDOT as applicable create a punch list that will contain minor items, since MCM will have been finalizing items through our quality control program throughout construction. The completion of this list is a priority and is done expeditiously so that stakeholders can begin utilizing portions of the project.

Second is the Closeout Documents. Closeout documents consist of product literature, warranties/guarantees, maintenance manuals and a list of subcontractors with their contact information to name a few. These documents are submitted in tabbed binders to facilitate FIU's follow up process in the future. Included in the closeout documents are the as-builts. During Construction MCM obtains, as normal course of business, to update as-builts on a weekly basis. At the end of the project as-builts are updated and sent to the owner with all closeout documents.

Lastly, MCM prepares a training program for operating and maintaining all major facility systems. This program, which is tailored specifically for FIU, will include MCM personnel and subcontractors with specific expertise on the installed systems and videotaped by MCM for future reference by facility operating personnel. This will serve as an Owners Manual for your project.

## MAINTENANCE & WARRANTY WORK

At the beginning of the project MCM will establish maintenance and warranty programs which will set requirements for consultants, contractors, and suppliers regarding the maintenance and operation of systems and facilities. This program content shall be considered the foundation of the Operations and Maintenance (O&M) system.

MCM will then follow these program requirements through the procurement process via Primavera Expedition, our document control system, to make sure that contracts are written with specific obligations for maintenance and warranties. This will ensure that FIU will receive immediate service for any issues that may arise during the warranty period.

## POST WARRANTY

MCM has a commitment to stand by our product. In the event that an issue arises after the warranty period has expired, MCM will review the matter on a case by case basis to determine if the warranty should be extended to cover the issue.

# FUNCTIONAL TECHNICAL FEATURES

## CONSTRUCTION

The shape and structural elements of this singular superstructure unit work effectively to showcase a special way of using Accelerated Bridge Construction (ABC) to build the entire span over the highway in a single night. This will highlight FIU's prominence in the international market place in ABC technologies and provide a hands-on learning center for students during construction.

## CONCRETE BENEFITS

High performance concrete with fly ash and silica fume admixtures create a dense, low permeable mix design for added strength and greater material durability. This will also reduce CO2 emissions during construction. For example: on the new I-35W Bridge the mix design reduced the CO2 emissions by 3.5 tons per truck load.

The concrete structure reduces the heat island effect resulting in a cooler material and less heat generated than steel or other materials creating pedestrian user comfort.

The solid concrete structure serves as a natural noise buffer to the traffic below.

## LONG-TERM DURABILITY

The concrete deck was designed using techniques that will specifically be beneficial for corrosion resistance. The deck was designed as a precast deck with high strength, low permeable concrete mix in combination with transverse and longitudinal prestressing, designed to operate in a state of net compression. This provides strength, redundancy, and avoids cracking. This is in contrast to conventional decks that must crack to engage the reinforcing bars. The diagonals and canopy will also be precast utilizing the same concrete mix and include longitudinal prestressing, allowing them to also operate in a state of net compression.

The steel pipe stays will be powder coated white, providing a durable high-quality finish and to address maximum opportunities for a variety of nighttime light colors to be used in showcasing lighting designs for seasons and events. Powder coating does not contain pollutants known as Volatile Organic Compounds, making it safer for the environment.





## NATURAL FREQUENCY

The major structural elements, including geometry of the stays and truss, the pylon stiffness, and shape and behavior of the superstructure, were all designed such that the natural frequency of the structure under harmonic pedestrian loads met the required criteria and ensures serviceability of the structure for its entire design life. For more details on the importance of this functional design feature see Section 6.3.

## FOUNDATIONS

The drilled shaft foundations were chosen for their cost-savings benefit over other foundation alternatives and were the best solution in the context of the project site. The low vibrations and quiet installation are beneficial near existing bridge and housing.

## DRAINAGE

The design of the canopy is set to naturally transport drainage to a cased piping system at the end of the bridge hidden next to the last vertical strut. At the deck level a drainage system along the centerline of the bridge goes to a central linear pipe that is a feature point at the base of the tapering superstructure cross section.

## MECHANICAL ROOMS

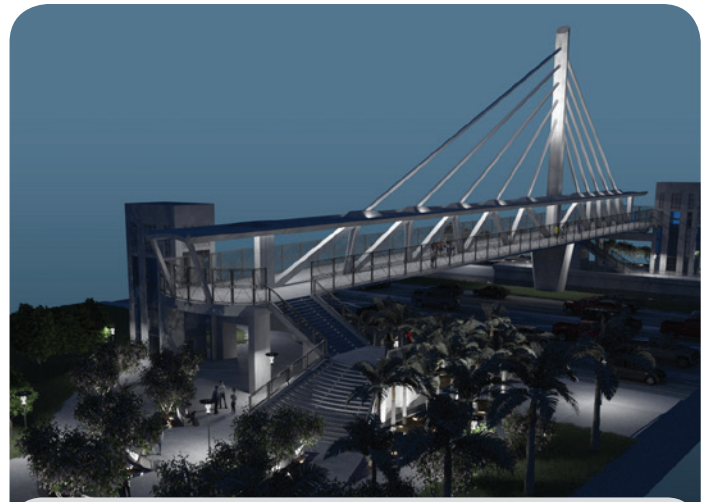
Telecom and electrical rooms, sized to FIU standards, have been seamlessly integrated into each staircase.



## MAINTENANCE ACCESSIBILITY

This all concrete structure is low maintenance and easily accessible for inspections. This bridge is designed for well over a 100 year design life.

The bridge elements are accessible to allow hands on inspection to the majority of the bridge components. The stays could be inspected through the use of cameras that can mount directly



*LED aesthetics lighting is programmable and can be on timers. Colors and dynamic patterns can be used for a variety of celebrations*



*The LED lighting which runs along the bridge length underneath the canopy provides safety lighting for the full pathway at night*

to the stays and travel along the stays, or through drones or other site inspection. The canopy is a platform for inspections.

## ENERGY EFFICIENCY

The LED lights that are used for aesthetic lighting are highly efficient, consuming less power than comparable metal halide lamps, being waterproof helps with durability and with a useful life of over 70,000 hours there are minimal maintenance requirements.

## SAFETY FEATURES

With the pylon erected above the deck, additional cameras can be installed at an eagle eyed location for additional pedestrian and student safety. The overhead canopy can provide camera locations for areas not secured by pylon cameras.

# FORM AESTHETIC FEATURES

## BRIDGE DESIGN ELEMENTS

All elements of the concrete bridge superstructure serve a structural purpose and provide a functional benefit for user enjoyment and comfort.

### BRIDGE SHAPE

The unique shape of the bridge allows for a shallow, smooth deck of 2' at the center, saving approximately 8' over a typical structure depth. This brings the bridge closer to the land areas and creates shorter staircases and elevators. This results in a significant cost savings benefit for our design.

### CONCRETE CANOPY

A sleek concrete canopy is an integral structural element of the design, providing stiffness and strength, while also providing beneficial shade and coverage for 53% of the walkway along the length of the bridge.

## BRIDGE WALKWAY

A full 30'-wide walkway is provided, 50% larger than the required minimum, allowing for more functional space on the structure.

### BRIDGE OVERLOOKS

Bridge overlooks are provided on the North side (450 SF) and South side (717 SF), providing enhances staircase connections and greater gathering space. The South overlook at FIU has a cantilevered canopy, and allows for a direct future connection to Parking Garage 4 and escalators.

### GRAND STAIRCASE

The grand staircase at the Bridge Plaza at the bridge's south end provides a 30' entrance at the ground level and a 15' entrance to the bridge at the deck level. This feature element of the design allows for a large and efficient movement of people as well as additional gathering space. Future additional opportunities could include portable benches and planter to liven the area further as a place to be experienced and enjoyed.







## ELEVATORS

The custom-design elevators provide a cost-effective and elegant solution for alternative and ADA-compliant access to the bridge. The large and spacious commercial elevator cabs will provide adequate space for bicycles and the movement of large cargo to the bridge for events. The cabs have one transparent wall each, facing the FIU campus, which provide an additional feature and allow for views of FIU never seen before. Similarly, the elevator structure has several transparent walls around the elevator shaft and attached vestibule areas. A ride up in these elevators will set the tone of excellence for arrival onto this signature bridge.

## MISSILE PROTECTION

An artistic 8-ft missile protection fence was designed for the bridge to protect vehicular traffic below. In addition to benefits provided by a solid concrete deck, the mesh characteristics will reduce some of the traffic noise from below. The large panel sizes reduce the number of vertical posts used for the railing system. This results in a cost savings benefit for our design. The geometric pattern of the diagonal bracing members complements the truss structure providing an additional layer of aesthetic character for the bridge.

## STAYS AND PYLON

The stays and pylon provide the required structural design to meet the pedestrian loads for harmonic conditions of natural frequencies and create dramatic signature aesthetics that tie directly to the rhythm of the strut pattern.

The tapering pylon reaches a height of approximately 109' with 81' above the bridge deck creating spectacular views for the users of the bridge and those driving beneath. The pylon height is in scale with the built environment of multi-story buildings and parking structures on each side.

## LIGHTING

The feature lighting of the bridge at night with LED programmable lighting of the stays, pylon, and linear walkway lighting at the underside of the canopy provide safety lighting and a dramatic beacon for a gateway to the FIU campus.

## ADVANCED INTERMODAL STATION (AIMS) PLATFORM

The new AIMS platform will enhance accessibility to the bridge location via the Miami-Dade Transit express bus system and will provide a new covered area that will encourage student and usage at the location of PG-6.







## COLOR

---

The Bridge uniform concrete color will appear white with direct sunlight. Consistent use of common sourced materials creates singular color for the entire bridge.

The bridge canopy could be stained a sky blue to blend with the landscape of the sky in looking upward from the bridge walkway. This also provides a naturally clean space that is avoided by bugs, insects and birds who think that they are exposed to predators in the sky and will not nest in the canopy.

## GEOMETRIC PATTERNS

---

The large scale stainless steel “Banker wire” railing follows the FIU specification requirements of materials, height and mesh sizes. The enhancement to this is the use of the largest rectangular panels available. This results in fewer vertical support frame members and creates a contemporary open look. To support the mesh of larger frames a dual wire support is used in a rib of angles reflecting the geometric angles of the central concrete truss. This wiring is positioned on the thin

side for a softer view of the angle pattern, seeming more like a hint of angled movement along the edges of the walkway.

## TEXTURES

---

The bridge walking surface could continue the garden feel of the plaza area using an exposed aggregate surface with pathway banding using the custom designed “FIU” flower pattern. This is optional for discussion of preferences with FIU.



## SOLAR INNOVATION

---

The canopy ceiling could incorporate solar ceiling fans. The solar energy source would be on top of the canopy for direct sunlight. Then the stainless steel fan blades, specifically designed to move 40% more air through an area, are below the canopy ceiling. A pathway full of cool breezes offers an enjoyable and inviting space to pause and gather. This is a future amenity not included in the base bid.



## FUTURE DETAILS

*Future amenities not included in the base bid.*

A central open concrete truss provides bridge stiffness and also serves as unique spaces for future art displays, table and seating connections, hammock supports, vendor set-ups, events, gatherings, and so much more.

More future details are described in the Architectural Plans in Section 7.

**Coffee and vendor carts** can be located along the bridge pathway, on overlooks or plazas.

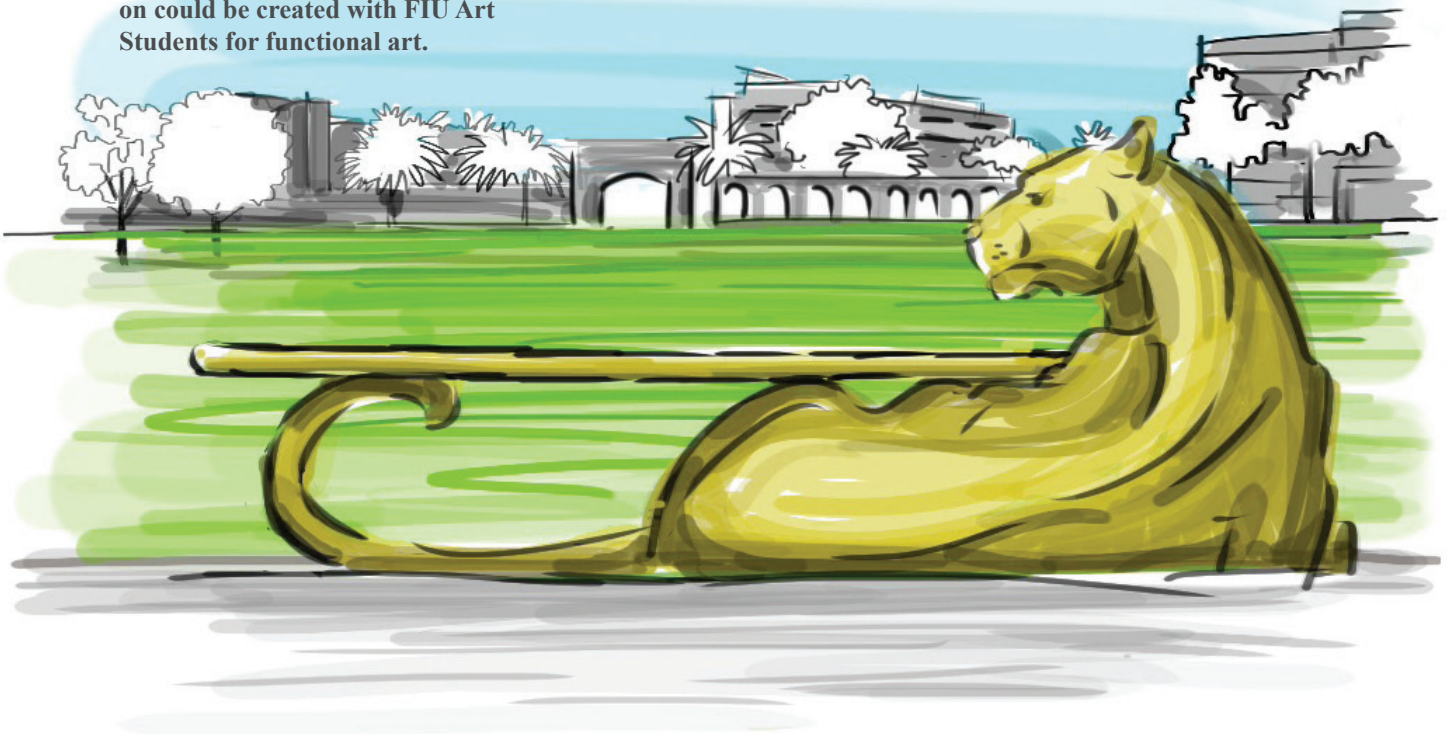


**Hammock hooks** between trusses to enjoy the peaceful nature of the canal while resting on the bridge. Hooks are contained in the struts and students bring their own hammocks.



**Thematic benches and planters** could enhance user experience along the bridge.

**Panther benches to Pause (Paws)** on could be created with FIU Art Students for functional art.







**SOUTH BRIDGE PLAZA ENTRANCE**



**NORTH BRIDGE PLAZA ENTRANCE**



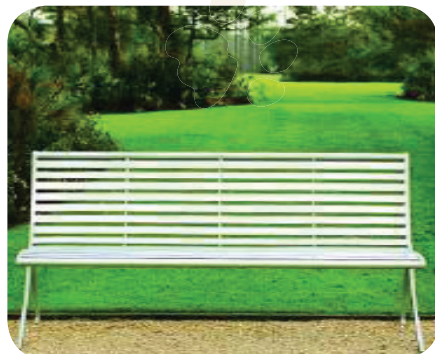
**A bridge worth walking**  
 with many places to pause (paws) and enjoy the beautiful natural and built environment. A special journey that adds value to each day. The native plants and trees, the functional sculpture benches with tree canopy shades, and the grand staircase are part of the many features of this experience. In the design of complete streets and connectivity the plazas and bridge invite and support active, dynamic community and campus life with tree-shaded, pedestrian-friendly ADA accessible streets and paths with site furnishings, good lighting, opportunities for on-going learning through art works and resting and gathering spaces.



*The art piece ultimately becomes the plaza itself. The concept would be that the new key stone walls at the stairwell reflect the historic image of the university. The claw marks talk about the evolution from historical aspects of the university to the future and the oval shaped pedestal or planter would be a recipient site for a sculpture of a globe. This would signify the impact of university on the international community. The grand staircase is not only a functional architectural element in the plaza, but also takes a sculptural shape through the use of two wall components, distinct in shape, color and material. These wall components are visible from the campus as well as from passing motorists on the street. The presence of a crape myrtle bosque provides sun /shade and is a key element to the experience of the plaza. Therefore the plaza itself becomes the sculpture itself. The north plaza has a unique north edge that reflects the gull wing patterns from the brothers to the rescue plaza.*



**HARDSCAPING FEATURES**



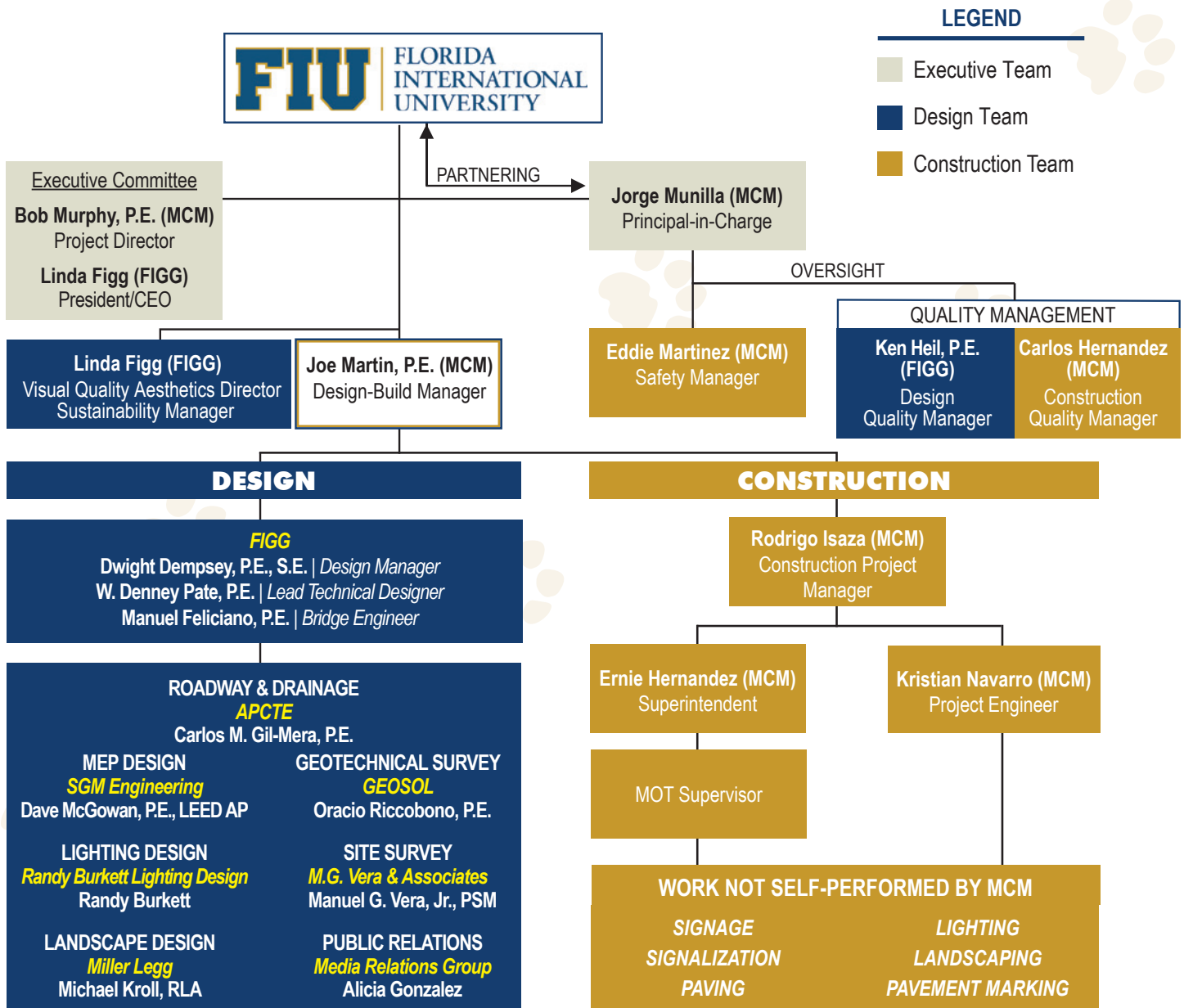
**LANDSCAPING WITH NATIVE PLANTS**





## 2. RÉSUMÉS OF KEY PERSONNEL

### Key Personnel Organizational Chart





# Jorge Munilla (MCM) Principal-in-Charge

## How Jorge Will Make Your Project A Success

Jorge Munilla is the President of MCM and will be involved in the project through direct communication, partnering and oversight.

As a proud FIU alumni, Jorge is enthusiastic to ensure that this signature bridge is a great success for his Alma Mater.



For the FIU UniversityCity Prosperity Project, Jorge's duties include guaranteeing owner satisfaction, maintaining safe and well coordinated working conditions as well as establishing and providing oversight for quality control procedures on the project.



Contributing to FIU's continued growth has become a passion at MCM, where more than 40% of MCM's management personnel are made up of FIU Alumni

## Relevant Experience Summary

With over 35 years of construction and business experience, Jorge Munilla provides a full spectrum of leadership and executive support to the company in all areas of operations. Jorge oversees and is responsible for the construction, project management and project administration activities for all building and civil projects throughout Florida, Texas, and Panama. His leadership ensures the company is meeting or exceeding its goals and the expectations of its clients. Jorge's goal-oriented and client satisfaction mentality has ensured the continued growth and strength of MCM over the past 30 years. While doing so, Jorge has also ensured the company and its 1,000 employees worldwide remain committed to safety and quality, which is evidenced by the company's excellent EMR rating of 0.73 and repeat client base. Under Jorge's direction and leadership, MCM has built itself into an industry leading builder in South Florida and has grown to become the 5th Largest Hispanic-Owned Contractor throughout the United States, as ranked by Hispanic Business Magazine - 2013.

Jorge has experience and knowledge of commercial construction estimating, means and methods, project administration, and a thorough understanding of industry practices, as well as experience in the management of superintendents, project managers, and project support staff. **In addition, he brings extensive experience in the Design-Build delivery method, having overseen the successful completion of 25 Design-Build projects in Miami-Dade County over the past 30 years.**

The growing body of work in MCM's construction portfolio includes several projects similar to the FIU UniversityCity Prosperity Project. Many of these projects included the **construction of bridges over major arterial roads for both pedestrian and vehicular traffic, construction of open spaces including outstanding architectural and landscape design components, design and construction of plazas, walkways and pavilions, underground utility installation, and general roadway improvements.**

- **MCM was founded in 1983 in Miami, Florida**
- **Family owned and managed**
- **30-year history as design-builders, construction managers, and general contractors**
- **Reputation for managing the most complex and challenging construction projects in South Florida**
- **An equipment fleet valued at over \$75 million, and state-of-the-art scheduling, budgeting, value engineering, and design-build expertise**
- **ENR Top 400 ranking**
- **Named one of the fastest growing Hispanic-Owned Construction Firms in Florida**

Recipient of FIU: Torch Award for Distinguished Alumni  
Dean's Council of FIU's School of Business

Past President of South Florida Association of General Contractors

Affiliated with the Greater Miami Chamber of Commerce

Active in construction industry, including Latin Builders Association







# Robert Murphy, P.E. (MCM) Project Director

## Relevant Experience Summary

Robert ‘Bob’ Murphy, P.E. has over 30 years of construction industry experience; with a majority of that time specializing in management and executive administration of public works and transportation construction contracts in Florida. His construction expertise comes from a variety of positions beginning as a field engineer, to the senior position of Chief Operating Officer.

Bob’s experience includes estimating; CPM scheduling and analysis; project management; negotiation; and corporate P/L responsibilities. He provides overall management, direction and administration, including serving as a liaison to the Owner on all civil construction projects; he monitors overall construction activities, and establishes project objectives, policies, procedures and performance standards on all civil construction projects.

For the FIU UniversityCity Prosperity Project, Bob will utilize his **extensive knowledge in successfully delivering over 25 road and bridge projects and his experience managing teams on similar civil construction projects**, including:

- **HEFT Widening from Sunset Boulevard to Bird Road**  
\$53,000,000 | Design-Build
- **Bridges of the Isles of Las Olas/Sunrise Key Blvd.**  
\$ 8,000,000 | Design-Build
- **NW 36th Street Improvements - Bridge Replacement**  
\$ 6,800,000 | Design-Build
- **HEFT AET Phase 1 & 2 Conversion**  
\$ 33,100,000 | Design-Build
- **Palmetto Expressway / I-75 - Segmental Bridge Reconstruction**  
\$26,000,000
- **US 441 - Road Reconstruction & New Bridge Construction**  
\$22,000,000
- **Immokalee Road Expansion**  
\$ 26,000,000 | Design-Build

## How Bob Will Make Your Project A Success

Bob is the Director of Civil Operations for MCM. He has over 30 years experience in Road and Bridge construction in Florida.

Bob will ensure performance standards setup for the project are followed through and will make sure the project is properly staffed and has access to the necessary resources to complete it to the satisfaction of Florida International University.





# Joseph Martin, P.E. (MCM) Design-Build Manager

## Relevant Experience Summary

Joseph 'Joe' Martin, P.E. has over 27 years of experience in the engineering and construction industry, which includes design, engineering and project management, design-build coordination, and executive management of a diverse and full array of projects.

For the FIU UniversityCity Prosperity Project, Joe will be the lead contact between design and construction, preconstruction matters, technical review and constructability review. His experience relevant to this project includes involvement on numerous projects with FDOT and coordination of construction and design for bridge and roadway projects:

- Bridges of the Isles of Las Olas/Sunrise Key Blvd., Fort Lauderdale, FL**  
 Responsible for design-build management for the replacement of five existing bridges in the City of Fort Lauderdale. These bridges, which were constructed between 1946 and 1959, have been evaluated and found to be structurally deficient requiring complete replacement. All five bridges are fixed, low level bridges. The four Nurmi Isle bridges have two 10' lanes and 6' sidewalks and the Sunrise Key bridge has two 11' lanes and 7' sidewalks. Each bridge replacement has two construction phases. Phase I pre-construction involved the set-up of MOT devices for the work zone, temporary signage and signals and the relocation of the existing utilities on the closed side. In the first phase, one half of the bridge was closed for demolition and new construction, while the other half remained open as a bidirectional ingress/egress lane from the isles to the mainline. The closed half of the bridge is constructed with precast bridge segments to ensure higher quality, efficiency of construction and easier maintenance for the Owner after completion. Upon completion of the new bridge side, the MOT is switched to Phase II to allow traffic onto the newly constructed lane as a bidirectional travel lane, while the existing side is closed as mentioned above for demolition and construction. **Other scopes included in the bridge reconstruction include the preservation and reuse of the historic bridge urns and pedestals, low level decorative bridge lighting, a vertical face traffic barrier and below bridge deck curtain walls to conceal the view of intermediate bents.**
- NW 36th Street Improvements - Bridge Replacement, Miami, FL**  
 Responsible for design-build management of two separate and distinct projects which were let together. **The first project consists of milling and resurfacing, median modifications, sidewalks and ADA ramp construction along NW 36th Street from Lee Drive to Okeechobee Road.** This project also includes signing and pavement marking, minor signalization improvements at the intersection of NW 36th Street with Okeechobee Road. **The second project consists of the replacement of the bascule bridge over the Miami Canal C-6 with a fixed bridge,** the construction of a new retaining wall due to the re-alignment of the Westbound SR-112 off-ramp to NW 36th Street, and the roadway reconstruction of NW 36th Street from Okeechobee Road to NW North River Drive. The DB team's innovative design allows for the bridge to remain open during the bridge replacement. The designers have taken into consideration building the proposed bridges and approaches in three different phases. Phase I is the north side of the bridge, Phase 2 is the south side and Phase 3 is the middle portion of the bridge.

## How Joe Will Make Your Project A Success

Joe is a seasoned Civil Engineer with extensive experience both in the construction and design arenas.

He will ensure smooth communication between FIGG, MCM and FIU. He will also manage the Value Engineering and Constructability Reviews during the pre-construction phase in order to ensure the project can be built within the allotted budget. Joe has over 27 years experience designing and building road and bridge projects in South Florida.







# Leonor Flores, LEED AP BD+C (MCM) Pre-Construction Manager & FIU Liaison

## Relevant Experience Summary

Leonor Flores, LEED AP BD+C has managed over 66 projects for FIU and will be a dedicated liaison for the FIU UniversityCity Prosperity Project.

Her experience relevant to this project includes:

- Florida International University Continuing Services Contract, Miami, Florida**  
 This Continuing services contract began in 2009 and has consisted of over 66 projects totaling \$37 million dollars. Some of the projects in this continuing services contract include but are not limited to: Hospitality Management dining room, hospitality management teaching kitchen, Carnival Student Center, basketball arena score board, baseball stadium scoreboard, boat ramp at Marine Science, Biology classrooms, renovation of teaching labs, emergency generator upgrade and lift station.
- Florida International University Steven & Dorothea Green Library Expansion, Miami, Florida**  
 This phased expansions project consisted of expanding the existing library for the Florida International University from three stories to eight and fourteen stories. This also included expansion and upgrades to the TV broadcasting facilities. This project received an award from the Florida Educational Facilities Planners Association, Architectural Showcase Certificate of Achievement

## How Leonor Will Make Your Project A Success

As a member of the Florida International University Alumni, Leonor has a strong and dedicated passion for working with FIU.



From 2009 to 2015, she managed over 66 projects for FIU. While working on the Continuing Services Contracts Projects, Leonor has established strong relationships & connections that will be an added value to this project.

Leonor is dedicated to listening to the University's desires while stimulating creative thought for the project's benefit.



## AWARDS

- 2014 Outstanding Merit Award - Restaurant/Fine Dining - A.R.E Design Awards
- 2014 Retail Store of the Year - Restaurant Category - Chain Store Age (CSA)
- 2014 Award of Merit - Best University Project - FERPA Architectural Showcase





# Rodrigo Isaza (MCM) Construction Project Manager

## Relevant Experience Summary

Rodrigo Isaza is a proactive, results-oriented Project Manager with 19 years of comprehensive experience in the construction industry. He has **extensive knowledge in successfully delivering road and bridge projects** as demonstrated from his experience managing teams on the HEFT AET Phase 1 & 2 Conversion, SR 836 Auxiliary Lanes, I-95 Managed Lanes, Sawgrass ORT Sunrise Mainline Toll Plaza Modifications, SR 836 Toll Plaza and Extension and SR 786 Interchange with SR 91.

Rodrigo is responsible for overall project coordination and supervision. He is a member of the American Society of Civil Engineers and maintains **certifications in Asphalt and Earthwork Quality Control, Maintenance of Traffic Supervision, Pile Driving and various levels of safety training**. He takes pride in **well managed and coordinated project operations, which has allowed his jobs to consistently meet schedule and budget objectives**.

For the FIU UniversityCity Prosperity Project, Rodrigo's specific project job tasks will include: coordination of all logistics for project start-up; instilling and ensuring a safe project environment; assuring that all project documentation such as permits, daily reports, as-builts and shop drawings are kept and maintained; implementing checklists and guidelines to optimize quality and minimize rework; maintaining an updated project schedule, documenting impacts and changes bi-weekly; and attending regular meetings with the project owner to address critical items and maintain a positive and professional relationship. His experience relevant to this project includes:

- **I-95 Managed Express Lanes, Miami, FL**  
**Responsible for overall project management for this design-build project, which included the reconstruction of the I-95/I-195 flyovers, widening of ten bridges on mainline I-95, and substructure modifications of the HOV Connector ramp bridge from SR 112 to I-95.** Reconstruction of the I-95 flyovers consisted of strengthening of existing substructure through the use of a combination of micro piles (allowed for the first time by FDOT as bridge foundation piling), pipe pile, and pre-stressed concrete pile. Included horizontal and vertical post-tensioning of the piers and caps.
- **CRA Grand Promenade, Miami, FL**  
**Responsible for project management on this project, which consisted of streetscape improvements to the CRA Grand Promenade.** The promenade ran between 10th and 11th streets for about three blocks, from Northeast First Avenue to Northwest First Avenue. Specific scope included general street lighting, new sidewalks, asphalt paving, landscaping and irrigation.
- **Florida Tri-Rail Cypress Creek Station Expansion, Miami, FL**  
**A fast-track Design-Build project for which we provided construction management and design services for the construction of two 400 LF platforms and aerial covered pedestrian bridge that connects them within a very narrow construction corridor.** Additional scope included installation of escalators, elevators, and all associated site improvements. All of this work was performed without disruption to existing train service and the project received several architectural and lighting design awards following completion.

## How Rodrigo Will Make Your Project A Success

Rodrigo has managed the construction of complex award-winning road and bridge projects for the FDOT and Turnpike Enterprise for the past 19 years. He is a seasoned professional who will deliver your project on time and within budget with outstanding quality.

### AWARDS

#### I-95 Managed Lanes

*FTBA - Best in Construction Design-Build Project of the Year, 2010*

*AASHTO - People's Choice Award: America's Top Transportation Project, 2009*

#### Sunrise Mainline Toll Plaza Modifications

*DBIA - Design-Build Project of the Year - Best Transportation Project Under \$50 Million, 2009*



“Mr. Isaza demonstrated a sound knowledge of the project ... As the CE&I Consultant for FDOT, I had the pleasure of working closely with Mr. Isaza for over 2 years on I-95 Express. Mr. Isaza is an intelligent and dedicated individual who was very easy to work with ... In summary, MCM and Mr. Isaza delivered a high profile, innovative project to FDOT District 6 on time. The project has been a success ... will serve as a model for other communities...”

David Tinder, PE, CE&I for I-95 Express







# Eddie Martinez (MCM) Safety Manager

## How Eddie Will Make Your Project A Success

Safety has always been Eddie's priority since the beginning of his career in 2001, after graduating from FIU.



He has won multiple FTBA and Florida Sunshine Awards for MCM, and is extremely conscious about maintaining a safe site, not only for our workers, but for all pedestrians and vehicles traveling around the project on a daily basis. He will have direct supervision over all Maintenance of Traffic devices and will ensure all personnel are properly trained in the best safety practices.



### AWARDS

*FTBA Award for Excellence in Safety, 2009, 2010, 2011, 2012, 2013, 2014*

*University of South Florida - Health Sunshine Award of Superior Achievement (6 awards for various projects between 2013 and 2015)*

*Broward County OCIP Safety Award - Pembroke Road project, 2015*

## Relevant Experience Summary

Eddie Martinez oversees and controls Corporate Safety Compliance for all MCM projects. He manages a staff of qualified Safety Managers and Representatives on each project, who report directly to him. Eddie and his team conduct weekly safety meetings at all jobsites and routinely perform random safety inspections in order to enforce the highest standards of safety at all times. Among his many Certifications are those for **OSHA-500 and Maintenance of Traffic-Advanced, as well as the United States Army Corps of Engineers Quality Control Manager designation.**

For the FIU UniversityCity Prosperity Project, Eddie's project tasks will include performing an documenting site visits and safety inspections; reviewing and investigating incidents and setting corrective actions to prevent re-occurrences; and providing office and onsite training to employees and management.

His experience relevant to this project includes:

- NW 36th Street Improvements - Bridge Replacement, Miami, FL**  
 Responsible for overall safety approach for two separate and distinct projects which were let together. The first project consists of milling and resurfacing, median modifications, sidewalks and ADA ramp construction along NW 36th Street from Lee Drive to Okeechobee Road. This project also includes signing and pavement marking, minor signalization improvements at the intersection of NW 36th Street with Okeechobee Road. **The second project consists of the replacement of the bascule bridge over the Miami Canal C-6 with a fixed bridge**, the construction of a new retaining wall due to the re-alignment of the Westbound SR-112 off-ramp to NW 36th Street, and the roadway reconstruction of NW 36th Street from Okeechobee Road to NW North River Drive. The DB team's innovative design allows for the bridge to remain open during the bridge replacement. The designers have taken into consideration building the proposed bridges and approaches in three different phases. Phase I is the north side of the bridge, Phase 2 is the south side and Phase 3 is the middle portion of the bridge.
- I-95 Managed Express Lanes, Miami, FL**  
 Responsible for overall safety approach for this design-build project, which included the reconstruction of the I-95/I-195 flyovers, widening of ten bridges on mainline I-95, and substructure modifications of the HOV Connector ramp bridge from SR 112 to I-95. Reconstruction of the I-95 flyovers consisted of strengthening of existing substructure through the use of a combination of micro piles (allowed for the first time by FDOT as bridge foundation piling), pipe pile, and pre-stressed concrete pile. Piers and caps were enlarged to handle additional load capacity. The existing bridge superstructure of AASHTO beams and deck were removed and replaced with steel plate girders and a new concrete deck. The existing approach spans were jacked to meet the new profile and pedestal buildups with bearing pads were installed. The bridge 6 widenings consisted of pre-stressed concrete and pipe pile foundations. New piers and caps were installed to receive AASHTO beams and 8" concrete deck. The modification to the HOV Connector required construction of new substructure and removal of the existing in order to accommodate the widening of I-95. The new foundations were a combination of concrete and pipe piling. The substructure was Class IV mass concrete, which included horizontal and vertical post tensioning of the piers and caps.





# Carlos Hernandez (MCM) Quality Control Manager

## Relevant Experience Summary

Carlos Hernandez has over 42 years of experience in the construction industry and holds a wide assortment of **Quality Management Certifications, including ones from the United States Army Corp of Engineers, American Concrete Institute, and the Florida Department of Transportation.** At the project level, Carlos coordinates with MCM's project management teams to ensure that all quality control standards are implemented and being met. Carlos plays a strategic role in many of MCM's projects guaranteeing that quality construction practices are being followed, ensuring total client satisfaction.

For the FIU UniversityCity Prosperity Project, Carlos's project tasks will include: supervision and control of all construction activities with regards to Quality Control; coordination and scheduling of subcontractors and suppliers for corrective measures when necessary; monitoring performance to ensure that work is performed correctly and on time; and overseeing the projects quality control program. His experience relevant to this project includes:

- **SR 823 Red Road Phase II & III (W. 23Rd St To W. 54Th St), Hialeah, FL**  
Responsible for overall quality control program for the reconstruction and widening of SR 823 (NW 57th Ave) from West 23rd St. to West 54th St., which required the implementation of multiple traffic switches to allow for construction phasing. Scope included the construction of a new retaining wall; installation of twin culverts, curb & gutter and sidewalks along the east side of NW 57th Avenue; widening the Little River Creek Bridge; removing trees in conflict with the installation of new utilities and drainage structures; installation of several new traffic signals; installing a new water main; driving over 800 concrete precast piles; installation of new landscaping, street and hardscape lighting and milling & resurfacing of Red Road.
- **I-95 Managed Express Lanes, Miami, FL**  
**Responsible for overall quality control program for this design-build project, which included the reconstruction of the I-95/I-195 flyovers, widening of ten bridges on mainline I-95, and substructure modifications of the HOV Connector ramp bridge from SR 112 to I-95.** Reconstruction of the I-95 flyovers consisted of strengthening of existing substructure through the use of a combination of micro piles (allowed for the first time by FDOT as bridge foundation piling), pipe pile, and pre-stressed concrete pile. The existing bridge superstructure of AASHTO beams and deck were removed and replaced with steel plate girders and a new concrete deck. The existing approach spans were jacked to meet the new profile and pedestal buildups with bearing pads were installed. The modification to the HOV Connector required construction of new substructure and removal of the existing in order to accommodate the widening of I-95.
- **FL SR 953 (Lejeune) Flyover, Miami, FL**  
Responsible for the overall quality control program for the reconstruction of Le Jeune Road, between NW 36th Street and Okeechobee Road. **The new construction involved replacing the existing Le Jeune Road Bridge at the Miami Canal with two new bridges, one southbound and the other northbound.** Bridges supports, required 18" pre-stressed driven piles. Additionally, a new flyover bridge connecting Le Jeune Road northbound with **Okeechobee Road westbound was built.**

## How Carlos Will Make Your Project A Success

Carlos is a consummate professional with 42 years of experience in construction, focusing on Quality Management for Transportation projects during the last 20 years.

He holds an extensive list of quality related certifications, ensuring the project will be built following the strict FDOT standards.

Carlos' expertise in supervising quality construction of complex concrete structures will be an asset to your project.



### AWARDS

#### I-95 Managed Lanes

*FTBA - Best in Construction Design-Build Project of the Year, 2010*

*AASHTO - People's Choice Award: America's Top Transportation Project, 2009*

#### Sunrise Mainline Toll Plaza Modifications

*DBIA - Design-Build Project of the Year - Best Transportation Project Under \$50 Million, 2009*







# Ernesto Hernandez (MCM) Superintendent

## Relevant Experience Summary

Ernesto 'Ernie' Hernandez has over 39 years of complex construction experience that enables him to oversee all field operations. He has the ability to provide on-site solutions to almost any design or construction issue in order to avoid construction delays and stay within budget. Ernie is a graduate of Miami-Dade College and has an extensive array of project experience in the Road & Bridge market. He is responsible for the overall scheduling, coordination and supervision of all field activities to ensure the successful and timely completion of the project. Ernie is responsible for productivity, efficient use of materials and equipment, and contractual performance. Ernie's professionalism and demeanor produce **safe and well organized job sites where quality and cost effectiveness are optimized.**

For the FIU UniversityCity Prosperity Project, Ernie's specific project job tasks include: coordination of all on-site functions, assisting project management in developing schedules, project standards and implementing working documents, forecasting and enforcing timely execution of work, maintaining updated as-builts and daily reports, monitoring compliance with MCM's Safety Program, maintaining quality control in every aspect of the project. His experience relevant to this project includes:

- **I-95 Managed Express Lanes, Miami, FL**  
Responsible for supervising all bridge activities for this design-build project, which included the reconstruction of the I-95/I-195 flyovers, widening of ten bridges on mainline I-95, and substructure modifications of the HOV Connector ramp bridge from SR 112 to I-95.
- **Jackson Memorial Hospital North Parking Garage, Miami, FL**  
This multi-phase project included construction of steel bridge superstructure spanning over 180 feet in length to facilitate safe pedestrian access to the hospital from a new parking garage, as well as the construction of the parking garage.
- **Miami Beach South Pointe Park, Miami Beach, FL**  
Superintendent for the renovation of a 19-acre park, including extensive site work, underground utilities, construction of new walk along the coastline, parking lot renovation and addition, construction of a new Pavilion, Playground and other Accessory Buildings.
- **Miami International Airport Central Collection Plaza, Miami, FL**  
Responsible for field supervision for the construction of a new centralized parking collections plaza, 17,000 SF administration building, several acres of site improvements, upgraded utilities, and new roadways entering and exiting Miami International Airport. **The design of the project has won numerous awards and includes the use of freestanding canvas awning structures and pastel colored pavers in the entry and exit lanes of the Plaza.**

## How Ernie Will Make Your Project A Success

Ernie has over 39 years of experience supervising the construction of complex road and bridge projects. He has a unique background since he has built projects with many similar features to the FIU Pedestrian Bridge, such as the Pedestrian connector for Jackson Memorial Hospital Parking Garage and Miami Beach South Pointe Park, which required extensive landscaping and beautification improvements. These projects, combined with his expertise serving the FDOT, will guarantee a successful project to FIU.



### AWARDS

#### I-95 Managed Lanes

FTBA - Best in Construction Design-Build Project of the Year, 2010

AASHTO - People's Choice Award: America's Top Transportation Project, 2009





# Kristian Navarro (MCM) Project Engineer

## Relevant Experience Summary

Kristian Navarro is a Project Engineer with 5 years of experience in the construction industry. He assists the entire project team, working directly with the Project Manager and Superintendent, with contract administration and coordinating work. Kristian is a team player with **great organizational and communication skills, who is dedicated to the successful on-time completion** of his projects.

For the FIU UniversityCity Prosperity Project, Kristian’s specific project job tasks will include: coordinating and reviewing all submittals for compliance with Contract Documents; scheduling, coordinating and monitoring material/equipment deliveries of long lead items for compliance with schedule and approved submittals; and assisting superintendent with implementing safety and quality control procedures for the project. His experience relevant to this project includes:

- FL SR 836 Auxiliary Lane, Miami, FL**  
**Project Engineer for this design-build project**, which consists of the widening, milling, and resurfacing of the eastbound lanes along State Road 836/Dolphin Expressway between the NW 57th Avenue exit ramp and NW 42nd Avenue/LeJeune Road exit ramp, as well as the construction of an eastbound outside auxiliary lane for a total length of 1.70 miles. **MCM’s scope also included the widening of the bridges over NW 57th Avenue, C-4 Canal, and NW 45th Avenue, which required constant communication with the FAA for use of cranes within the Miami International Airport flight path**; the construction of retaining wall systems, and associated work including relocation/replacement of signs, lighting poles, underground utilities, drainage, upgrades to the existing inside traffic railings and Intelligent Transportation System (“ITS”) infrastructure.
- Port Miami Tunnel, Miami, FL**  
 The Port of Miami Tunnel project involves the design and widening of the MacArthur Causeway by one lane in each direction leading up to the tunnel entrance, the relocation of Parrot Jungle Trail, and the reconstruction of roadways on Dodge Island. The tunnel itself will have two side by side tubes carrying traffic underneath the cruise side of the Government Cut shipping lane. Specific project duties included assisting the Construction Manager with engineering, planning and project management tasks; review project plans and redesign plans to optimize cost, schedule and constructability; develop detailed Method Statements to plan for upcoming field activities; **and planning and overseeing subcontracted work for Asphalt, Rigid Paving, Barrier Walls, Curb and Gutter, Guardrail, Fencing and Overhead Signage.**
- FKAA Duck Key Utility Improvement, Duck Key, FL**  
 Responsible for management of a \$6 Million Construction Contract to install Gravity Sewer, Force, Potable Water and Reclaimed Water Mains in Duck Key, FL. Specific project duties included optimizing cost efficiency and utilization of labor, materials and equipment resources; implementation of controls and operations for efficient production; and communicating with residents to avoid potential future conflicts

## How Kristian Will Make Your Project A Success

Kristian has a special commitment to this project being he is an FIU Alumni.



With 5 years of experience in the construction industry, Kristian will be responsible for coordinating schedule updates, keeping record of all communications and meetings amongst the team, and handling all contract administration for the project. He recently closed-out the Site 1 Impoundment Project for the US Army Corps of Engineers, and previously worked at the Port of Miami Tunnel. Both of these projects were highly complex and paperwork intensive, bringing his project controls experience to this project.







# Linda Figg (FIGG) Visual Quality Aesthetics Director Sustainability Manager

## Relevant Experience Summary

Linda Figg is an acclaimed international speaker on bridge aesthetics and sustainability, her experience includes the projects below:

### How Linda Will Make Your Project A Success

Linda's passion is bridge aesthetics and sustainability. She has led hundreds of meetings and Design Charettes, listening to the community, while stimulating creative thought for the project's benefit.

She will lead all of the aesthetic design and work closely with the Owner, the design team, select shareholders and agencies to ensure that every detail is thoughtfully, carefully, and fully addressed.



CREATING BRIDGES AS ART®

### AWARDS & RECOGNITION

*355 Awards for iconic bridges, sustainability and aesthetics*

*3 Presidential Awards from the National Endowment for the Arts – only 5 of these awards have been given for bridges by the U.S. President*

*Over 300 magazine covers*

*7 television shows in past 14 years – Modern Marvels, National Geographic, NOVA/PBS*

*Recognized in books on the World's Greatest Bridges*

*Many 1st and records for the longest spans and widest bridges in America*

*Multiple bridge patents for technology*

### Capital Cascades Connector Bridge, Tallahassee, FL

This bridge is an **eco-friendly signature pedestrian bridge** serving as a gateway to Florida's capital city, just three blocks from the Capitol and connecting a chain of parks. Solar canopies, LED lighting, unique concrete structural shaping, and stone wall connections are some of the features of this bridge gaining international attention. Linda led the **aesthetic design, community involvement, and sustainability**.



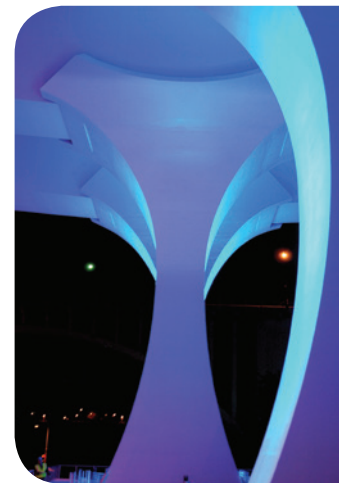
### Penobscot Narrows Bridge & Observatory, Prospect-Verona, ME

**Tallest public bridge observatory** in the world. Bridge theme of "Granite Simple and Elegant", creating this one-of-a-kind cable-stayed signature bridge. Linda led the **aesthetic design, community involvement, and the design details/features and sustainability**.



### New I-35W Bridge, Minneapolis, MN

The New I-35W Bridge was designed using a theme of Arches-Water-Reflection. Curved 70' tall piers and a 504' span of curved concrete are blended in harmony with the Mississippi River site along this National Park. The bridge design will accommodate a future pedestrian crossing suspension bridge underneath the main bridge. Linda led the **aesthetics and sustainability**. Winner of 27 awards and a feature of one-hour **National Geographic special**.





# Denney Pate, P.E. (FIGG) Lead Technical Designer

## *How Denney Will Make Your Project A Success*

Denney is a leader in designing signature bridges. His creative engineering ideas will deliver a cost-effective, eco-friendly and innovative bridge solution for your project, which will be focused on constructibility and quality.



CREATING BRIDGES AS ART®

### AWARDS & RECOGNITION

*Engineering News Record,  
Newsmaker 2007*

*Modern Marvels' Top 25 (of 4,000)  
Inventions of the Year, Time  
Magazine, 2006*



*ARTBA Top 100 Private Sector  
Leaders in Transportation  
Construction of the 20th Century  
(only living engineer named)*

## *Relevant Experience Summary*

Denney Pate, P.E. has 35 years of extensive experience with major bridges including cable-stayed bridge design and construction. He is recognized as one of the leading bridge designers in the world. Of the many projects he has worked on, the following are most relevant to your project:

### **Capital Cascades Connector Bridge, Tallahassee, FL**

This signature pedestrian bridge will provide a link between the Capital Cascades Park and Cascades Trail System. Denney was lead technical designer and Engineer of Record (EOR) responsible for the bridge design.



### **Leonard P. Zakim Bunker Hill Bridge, Boston, MA**

Denney was the lead technical designer and EOR for FIGG on the design of the concrete cable-stayed back spans. With ten lanes, the bridge is the widest cable-stayed bridge in the world. The bridge is recognized as the crown jewel of Boston's renovation and has received 15 design awards, including the ASCE revered OPAL award for outstanding civil engineering project.



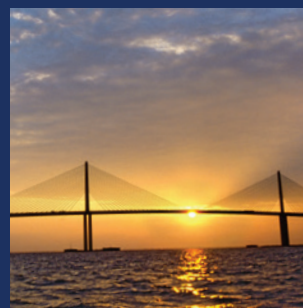
### **I-280 Veterans' Glass City Skyway, Toledo, OH**

8,798' long precast segmental concrete cable-stayed bridge over the Maumee River; the largest bridge project ever undertaken by ODOT. Denney served as the lead technical designer and EOR and also led the technical review of all Contractor submittals of the bridge during construction.



### **Sunshine Skyway Bridge, Tampa, FL**

1,200' main span precast concrete segmental cable-stayed bridge. Denney was a key bridge engineer working full-time from the conceptual design through completion of construction involving a period of nearly five years.







# Dwight Dempsey, PE, SE (FIGG) Design Manager

## *How Dwight Will Make Your Project A Success*

Dwight brings experience and leadership in bridge design and project management totaling more than \$1.4 billion in construction value to your project. He has provided design services on 4 signature cable-stayed bridges.

Dwight served in leadership roles for the New I-35W Bridge and South Norfolk Jordan Bridge design-build projects. His passion, incomparable work ethic, and leadership will provide design management that will result in the highest quality design possible.



CREATING BRIDGES AS ART®

### AWARDS & RECOGNITION

*FIGG Creating Raving Fans Award, 2013 - award to recognize exemplary service to our customers*

*FIGG Vanguard of Quality Award, 2007 - award to recognize leader in pursuing and achieving excellence*

*New I-35W Bridge  
Winner of 27 Awards, including the prestigious George S. Richardson Medal from the International Bridge Conference, 2009*

*Top Bridge of the Year, 2008 - Roads & Bridges*

## *Relevant Experience Summary*

Dwight Dempsey, PE, SE, is director of FIGG's Southeastern Regional Office. Dwight has significant experience in the design, project management and construction inspection of signature concrete bridge projects. The following are most relevant to your project:

### **Capital Cascades Connector Bridge, Tallahassee, FL**

This signature pedestrian bridge will provide a link between the Capital Cascades Park and Cascades Trail System. Dwight was responsible for providing leadership and oversight on the final design and currently for design office support during construction.



### **NASA Indian River Bridge, Kennedy Space Center, FL**

FIGG has been contracted by the National Aeronautics and Space Administration (NASA) to prepare Type Size & Location (TS&L) Study, Preliminary Engineering Report and Foundation Load Test Study for this 3,997' bridge, which will be the gateway entrance to the Visitors Center at KSC. As Project Manager, Dwight is responsible for providing leadership and coordination of multi-discipline subconsultants.



### **New I-35W Bridge, Minneapolis, MN**

Emergency replacement of ten lane interstate bridge on congested urban site. The 1,220' structures feature a 504' main span over the Mississippi River. Dwight coordinated design efforts from FMJV/MnDOT to FIGG design offices to ensure efficient design and review process.



### **Peace Bridge Project, linking Buffalo, NY and Fort Erie, Canada**

Preliminary design of signature stay cabled bridge concepts through a bi-national integrated environmental process involving U.S. and Canadian agencies. As FIGG Project Manager, Dwight was responsible for development of signature bridge concepts and evaluation of environmental aspects with close coordination with the U.S. and Canadian agencies.





# Manuel Feliciano, PE (FIGG) Bridge Engineer

## Relevant Experience Summary

Manuel Feliciano, PE is an Assistant Regional Bridge Engineer in FIGG's Southeastern Regional Office, providing technical leadership to the design office. Manuel has over 21 years of experience in bridge design and project management. The following are most relevant to your project:

### How Manuel Will Make Your Project A Success

Manuel brings over 21 years of bridge design experience to your project. He is one of the most sought-after engineers within FIGG and is well respected both within the firm and externally with clients.

His related past experiences include involvement with 2 pedestrian bridges, 5 cable-stayed bridges, and numerous large signature bridges.

The strength of his background in bridge design, combined with his commitment to quality, will be invaluable to the success of your project.



CREATING BRIDGES AS ART®

### AWARDS & RECOGNITION

*FIGG Vanguard of Quality Award, 2004 - award to recognize leader in pursuing and achieving excellence*

#### Penobscot Narrows Bridge & Observatory

*Winner of 20 Awards including:*

*George S. Richardson Medal from the International Bridge Conference, 2007*

*Globe Award, 2007 - ARTBA*

*Top Bridge of the Year, 2004 - Roads & Bridges*

### Capital Cascades Connector Bridge, Tallahassee, FL

This signature pedestrian bridge will provide a link between the Capital Cascades Park and Cascades Trail System. As assistant project manager and project engineer, Manuel was responsible for substructure analysis and design and checked superstructure design. Manuel is leading the design office support effort for construction.



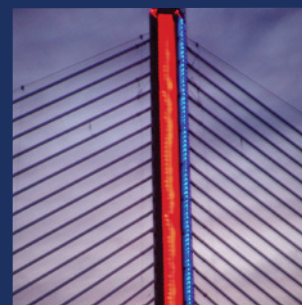
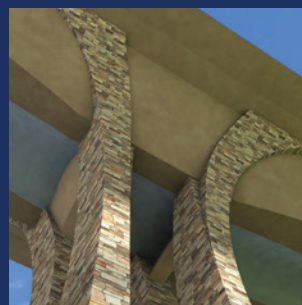
### Penobscot Narrows Bridge & Observatory, Prospect-Verona, ME

2,120' cable-stayed concrete bridge with multi-level glass public observatory at the top of 420' tall pylon. Manuel was responsible for the design of the approach spans box girder and design of erection equipment. He also performed an independent check on the pylon table design, developed the specification and designed the mechanical room that sits atop the pylon footing to accommodate the observatory.



### Lesner Bridge Replacement, Virginia Beach, VA

This is a gateway for the City of Virginia Beach at one of the primary entrances to the City. The current bridge will be replaced with precast segmental twin bridges approximately 1,575' in length that must be built in the same alignment, requiring that the design allow for staged construction and maintenance of traffic. Manuel was responsible for managing the bridge design effort and design of the substructure. Manuel is leading the design office support effort for construction.







# Kenneth Heil, PE (FIGG) Design Quality Manager

## How Ken Will Make Your Project A Success

Ken recently served as the Quality Assurance Coordinator for the first two phases of the Honolulu High-Capacity Transit Corridor in Hawaii. These projects combined feature 10 miles of aerial structure carrying twin tracks.

Ken's expertise at ensuring the Quality Management Plan is successfully carried out will provide a high quality design for your bridge.



CREATING BRIDGES AS ART®

## Relevant Experience Summary

Kenneth 'Ken' Heil, PE has been providing technical leadership, design and quality management of major bridge projects for 17 years. The following are most relevant to your project:

### I-91 Bridge Improvements, Brattleboro Bridge 9, Brattleboro, VT

Design-Build project includes the replacement of Bridge 9 over the West River. Bridge 9 will be a new 3-span, 1,036' long arching concrete bridge built utilizing cast-in-place balanced cantilever construction. Standing 100 feet above the scenic valley, the 515' main span forms an open gateway anchored by curving, cathedral piers. This bridge will feature viewing platforms for pedestrians, hikers and visitors at the base of each pier overlooking the West River and mountainous valley. Ken is the Engineer of Record and led the technical design.

### Allegheny River Bridge, Pittsburgh, PA

New 2,350' long twin six-span structures with a 532' main span, built as cast-in-place concrete box girder in balanced cantilever, a first of its type bridge for Pennsylvania. Ken provided technical direction for the final design and provided support during construction.

### New I-35W Bridge, Minneapolis, MN

Emergency replacement of 10-lane interstate bridge on congested urban site. The 1,220' structures feature a 504' main span over the Mississippi River. Completed 3 months ahead of schedule. Ken led the design of the east span unit.

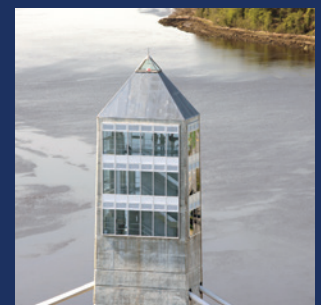
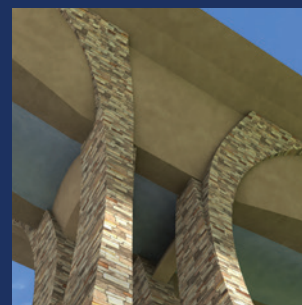
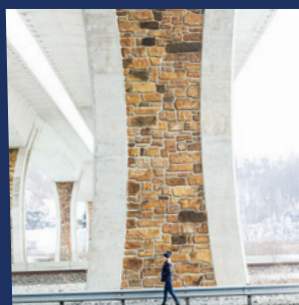
### Penobscot Narrows Bridge & Observatory, Prospect-Verona, ME

2,120' cable-stayed concrete bridge with multi-level glass public observatory at the top of 420' tall pylon. Ken was a key engineer on the pylon and superstructure design.



## AWARDS & RECOGNITION

*FIGG Vanguard of Quality Award, 2008 - award to recognize leader in pursuing and achieving excellence*





# Randy Burkett, FIALD, IES, LC (Burkett) Aesthetic Lighting Design

## How Randy Will Make Your Project A Success

From the dynamic nature of a signature bridge to the majesty of one of the world's greatest monuments, Randy Burkett has been responsible for the illumination of a diverse collection of structures throughout the world.

Randy will evaluate the lighting needs for roadway, navigation, air traffic and pedestrian safety. He will also present an aesthetic feature lighting system that interfaces with the required safety lighting and will highlight the bridge features with memorable lighting designs selected by the community.

## AWARDS & RECOGNITION

*Randy is an active member of the International Association of Lighting Designers, former board member and president*

*Over 100 awards including:*

*IALD Award of Excellence 2002, Jefferson National Expansion Memorial Gateway Arch*

*IALD Award of Excellence 2010, Utah State Capitol Restoration*

*IALD Award of Merit 2012, Martin Luther King Jr. Memorial*

*Illumination Design Award of Merit 2010, Utah State Capitol*

*International Illumination Design: Award of Distinction, Sea World, FL Award of Excellence, Gateway Arch*

## Relevant Experience Summary

Randy Burkett is an accomplished lighting designer, whose aesthetic design experience includes the projects below:

### Capital Cascades Connector Bridge, Tallahassee, FL

Randy is the aesthetic lighting designer for the FIGG design team for this new signature pedestrian bridge. Solar fabric integrated into the canopies combines innovative tensile structures with cutting edge photovoltaic materials. The solar panels will provide enough energy to light the entire bridge. Aesthetic lighting with changing LED capabilities provides adjustable soft colors for holidays, seasons and local special events.



### New I-35W Bridge, Minneapolis, MN

Randy was the aesthetic lighting designer for the Flatiron-FIGG DB Team to deliver this \$234 emergency replacement of I-35W bridge over the Mississippi River on a fast-track design-build schedule. The lighting design included one of the country's first major LED bridge deck and piers illumination system.

### Jefferson National Expansion Memorial - Gateway Arch, St. Louis, MO

The gateway arch had stood unlighted for 30 years. The innovative solution formulated by Randy after 3.5 years of mockups and computer analysis was the use of a short-arc xenon computer controlled lighting system that is virtually invisible by day and absent of reflective glare to surrounding highways at night. Additionally, safeguards in the design minimized sky glow & light trespass into surrounding eco-sensitive bird nesting habitats.



### Martin Luther King Jr. Memorial, Washington, DC

Carefully integrated lighting elements express the spirit of this memorial to Dr. Martin Luther King Jr., constructed on the National Mall in Washington, D.C. creating a powerful visitor experience. The stringent operating mandates of the National Park Service and the desire to achieve nighttime harmony with adjacent memorials were important technical considerations.







# Carlos Gil-Mera, PE (APCTE)

## Roadway & Drainage

### *Relevant Experience Summary*

Carlos M. Gil-Mera, PE brings over 27 years of experience in the Design of Highway Facilities and Infrastructure Projects. He spent the first fifteen years of his career working for the Florida Department of Transportation (FDOT) District 6 internal design office on the production of roadway plans including minor design and major reconstruction projects. During the last two years of his career at FDOT, he worked as District 6 Roadway Design Project Manager where he was head of an Internal Design Team working on a large number of milling and resurfacing and reconstruction projects. As one of the principals of APCTE, Carlos has **designed and managed numerous Transportation Projects for Governmental and Private Clients**. He is currently the Design Project Manager on MCM's NW 36th Street Bridge Replacement project, which is a design-build project for FDOT District 6.

### *How Carlos Will Make Your Project A Success*

With his BSCE from FIU and experience gained working with Florida DOT, Carlos has significant knowledge of Roadway & Drainage Design and which will help ensure the successful outcome of your project.



#### **N.W. 36TH STREET BRIDGE REPLACEMENT, Miami, FL**

The first project consists of milling & resurfacing, median modifications, sidewalk, and ADA ramp construction along NW 36th Street. The limits of this project go from west of Lee Drive to just east of Coolidge Drive. The second project consists of major reconstruction including the replacement of the NW 36th Street bascule bridge over the Miami Canal, as well as milling and resurfacing, **drainage**, lighting, signalization, and minor intersection modifications of NW 36th Street at NW South River Drive and NW North River Drive. This project entails replacing a functionally obsolete Hanover Bascule Bridge crossing the Miami Canal C-6 with two fixed concrete bridges.

#### **MIAMI INTERMODAL CENTER (MIC), Miami, FL**

Carlos was in charge of **supervising the development of the roadway, drainage and utility master plan** for this \$1.3 billion dollar project. In charge of supervising the development of the construction plans for all the Limited Access Roadway Plans for the MIC-MIA Interchange, Northbound and Southbound Connector Distributor. Responsible for coordination with all different agencies having projects in the area such as MDX, Miami Dade County Public Works, City of Miami, Miami International Airport, etc.

#### **NW 14TH STREET RECONSTRUCTION, Miami, FL**

Total reconstruction of NW 14th Street approximately 0.6 miles from NW 42nd Court to NW 34th Avenue. This project included the **preparation of Roadway Plans, Drainage improvements**, including a Pump Station, Signalization, Lighting and Signing and Pavement Markings and Intelligent Transportation System (I.T.S) Plans.

#### **US-41 / SW 8TH STREET (57TH AVENUE TO 42ND AVENUE), Miami, FL**

Total reconstruction of this section that extends approximately 1.5 miles of SW 8th Street "Calle 8", Carlos was in charge of the **design of a new drainage system**, new lighting, and new signalization, and also the post design services. The project also included the coordination and design of a new 16" water main along the corridor.

#### **WATER AND SEWER IMPROVEMENTS FOR PERRINE-CUTLER RIDGE - BASIN A, Miami, FL**

An upgrade to the existing sanitary sewer system in the area to better meet the aggregate demand of several large scale future developments. The new sanitary sewer system includes: various 8" D.I. gravity mains along the northern portion of the neighborhood. This gravity line routes flows to a new pump station (PS# 1142, 793 GPM); which replaced the existing pump station (PS 751). Flows are then transmitted via a new 12" DIP force main, running primarily in the north-south direction, which connects to the 12" DIP force main constructed in Basin B of the project. The new Pump Station PS# 1142 was **nominated as "Project of the Year" by the CAACE in 2013.**

#### MEMBERSHIPS

*American Society of Civil Engineers*

*The Florida Engineering Society*

*The Cuban-American Association of Civil Engineers.*



# Dave McGowan, PE, LEED AP (SGM)

## MEP Design

### *How Dave Will Make Your Project A Success*

Dave has worked closely with FIU's staff and faculty since 2011. Dave has established relationships with FIU's Facilities personnel throughout various MEP/FP renovations and upgrades, chiller plants, and dorm/student housing facilities on the campus. His experience working with FIU will be a tremendous benefit to your project.

### *Relevant Experience Summary*

Dave McGowan has vast experience as Engineer of Record and is an LEED Accredited Professional who specializes in design, testing, and modification of HVAC systems. Dave was responsible for energy modeling on a project that received USGBC LEED Platinum Certification - the highest level of LEED certification.

#### **FLORIDA INTERNATIONAL UNIVERSITY SATELLITE CHILLER PLANT, Miami, FL**

A \$6.7 million new satellite utility plant was designed by SGM in conjunction with Leo Daly. The purpose of the project was to provide the cooling equipment needed to meet the requirements of the existing campus facilities and for future growth of the campus. The design consisted of five 1500 ton water cooled chillers, five cooling towers, three variable frequency drive secondary chilled water pumps, three primary chilled water pumps, three variable speed condenser water pumps, refrigeration monitoring system, and a complete web based BACNET energy management system.

#### **FLORIDA INTERNATIONAL UNIVERSITY PARKVIEW HOUSING, Miami, FL**

This \$36.5 million, 240,000 SF project created 148-four bedroom, two-bath apartments with a living room and kitchen, and 26 studio units for a total of 620 beds. Amenities included house lounges, study rooms, laundry facilities and outdoor gather spaces, such as a grass amphitheater. The six-story buildings line a "Main Street" which links the arena to the north and the stadium to the south.

#### **UNIVERSITY OF CENTRAL FLORIDA BASEBALL STADIUM EXPANSION, Orlando, FL**

This \$15 million, 60,000 SF project is taking place in two separate phases and will add 2,400 seats to the present seating capacity of 800. The first phase calls for 1,000 bleacher seats with a restroom expansion. The second phase includes a new elevated press box, seven luxury suites and club level seating. The second phase will add 1,200 seats on the present concourse, along with the addition of new public restrooms, concession space, and new front gate.

#### **DESIGN-BUILD FITNESS CENTER RENOVATION, MACDILL AIR FORCE BASE, Tampa, FL**

This \$1.1 million, 12,000 SF, fitness center renovation project created an award winning sports facility serving 2,300 patrons daily. SGM was the Project Manager and Mr. McGowan was the Mechanical Engineer of Record. The project included the addition of a second floor (mezzanine) which consists of new large cardio workspace rooms. Additionally, the project added two virtual instructor kiosks installed in the existing spin room, which was converted into an aerobics room.

### **CERTIFICATIONS**

*LEED® Accredited Professional*

*ASHRAE Certified Building Energy Model Professional*

*ASHRAE Commissioning Process Management Professional*



# Oracio Riccobono, PE (GEOSOL)

## Geotechnical Survey

### *How Oracio Will Make Your Project A Success*

With significant experience in geotechnical engineering and his MBA degree from FIU, Oracio has the skills needed to tackle the geotechnical survey for the success of your project.



### *Relevant Experience Summary*

Oracio Riccobono, PE has over 28 years of experience and has worked on numerous medium to large geotechnical engineering projects for the public sector, domestically and overseas. His expertise includes subsurface explorations; laboratory studies; geotechnical design, analysis and recommendations for design and construction of foundation elements for transportation projects, including highway, railroad, marine and airport facilities.

#### **DISTRICTWIDE AND AREAWIDE GEOTECHNICAL & MATERIALS TESTING CONTRACTS, FDOT DISTRICTS 4 AND 6 , Tri-County Area, FL**

Project Manager/Senior Geotechnical Engineer responsible for executing over 150 work orders for projects located throughout FDOT Districts 4 and 6 during PD&E and Final Design phases. Includes field exploration, laboratory testing, geotechnical analyses for roadway and structures and preparation of geotechnical reports.

#### **CONSTRUCTION ENGINEERING AND INSPECTION (CE&I) SERVICES FOR SR 874 AND KILLIAN PARKWAY IMPROVEMENTS, Miami-Dade County, FL**

He served as Geotechnical Engineer during construction responsible for planning and executing the test pile program of driven concrete piles for bridges, providing driving criteria and foundation certification packages. He provided construction-phase testing (coring, SPT borings & GPR) and recommendations for geogrid reinforcement as a response to vibration-induced longitudinal cracking that appeared on Killian Parkway.

#### **NW 97TH AVENUE WIDENING AND BRIDGE OVER SR 836 PROJECT, Miami, FL**

Geotechnical Engineer responsible for planning and executing the field exploration and laboratory testing programs and interpreting the test results. He performed foundation analyses and geotechnical design for a new bridge, MSE walls and roadway construction. Prepared the geotechnical reports.

#### **SR 836 TOLL PLAZA, FROM NW 87 TO 107TH AVENUES, Tampa, FL**

Geotechnical Engineer responsible for planning and executing the field exploration and laboratory testing programs, interpreting the test results. He performed foundation analyses to evaluate the site preparation requirements and to provide foundation design recommendations for a new toll plaza facility including administration buildings and canopies.

#### **KENDALL DRIVE NB ON-RAMP BRIDGE TO NB SR 874, Orlando, FL**

Geotechnical Engineer responsible for planning and executing the field exploration and laboratory testing programs, interpreting the test results. He performed foundation analyses and design of 3 major bridges, embankments, MSE walls, sheet pile walls, noise walls and sign structures. Prepared geotechnical engineering reports.

#### MEMBERSHIPS

*American Society of Civil Engineers*

*Florida Engineering Society*

# Manuel G. Vera Jr., PSM (MGV) Site Survey

## *How Manuel Will Make Your Project A Success*

Manuel has extensive experience in the management and coordination of survey projects involving a variety of surveying techniques such as Aerial Surveys, Conventional Ground Surveying, Utilities designation, etc. This experience will ensure that he delivers the best possible site survey for your project.

## *Relevant Experience Summary*

Manuel G. Vera Jr. has 30 years of experience as a surveyor. He has managed a variety of survey contracts and projects for the Florida Department of Transportation, Miami – Dade County, Miami-Dade Expressway Authority, City of Miami, and numerous Engineering and Design firms. Mr. Vera has **performed and managed all types of surveying services** including: Design Surveys, Right-of-Way Control Surveys, Right-of-Way Mapping, Platting, Construction Layout, As-built Surveys, Drainage Surveys, etc. Manuel is a Senior Surveyor and Mapper as well as our Senior Project Manager.

### **FDOT DISTRICT 6: SR5/OVERSEAS HIGHWAY MM99.6 TO MM106.3, Monroe, FL**

MGV established, verified and/or recovered the existing Horizontal Project Network Control (HPNC) and Vertical Control Project Network Control (VPNC) to update existing PNC sheets on the locations in the proposed project.

### **FDOT DISTRICT 6: SR9, FROM MP 11.345 (NW 141ST ST) TO MP 13.28 (ON RAMP FROM PARK & RIDE), Miami, FL**

Provided a Full Design Survey including: the establishment of horizontal (NAD 83/90) and vertical control (NAVD 88) networks, survey baselines and Right of Ways were established as per Department Right of Way Maps; Topographic and Digital Terrain Model (DTM/3D) Survey was prepared from right of way to right of way, along the area proposed; drainage structures and above ground features were identified and shown on the survey.

### **FDOT DISTRICT 6: SR9A/I-95 RIGID PAVEMENT REHABILITATION STUDY, Miami, FL**

MGV Established and/or recovered Horizontal Project Network Control and Vertical Project Network Control, for the purpose of establishing control on the Florida State Plane Coordinate System (datum of 1983/1990 adjustment). The existing survey baseline was established as part the FDOT right of way maps. MGV surveyed the 12 V-piers that are going to be replaced and obtained spot elevations at the bottom of seabed elevation at each pier.

### **FDOT DISTRICT 6: SAFETY IMPROVEMENTS TO SR-7/ NW 7TH AVE FROM NW 131ST ST TO NW 118TH ST, Miami, FL**

MGV prepared full topographic and DTM Survey for SR-7 from NW 117th Street to NW 119th Street and the intersection of SR7 and NW 125th Street; with cross-sections were performed every 500-ft intervals. They located existing drainage structures identifying the type of structure, rim location, pipe invert elevations, pipe materials, direction, size and condition.

## MEMBERSHIPS

*Florida Surveying & Mapping Society*





# Michael Kroll, RLA, FASLA (MILLER LEGG) Landscape Design

## Relevant Experience Summary

During his extensive career, Mike Kroll, as Vice President of Landscape Architecture, Planning and Environmental Services, has been actively involved in numerous landscape designs, including several successful projects at Florida International University:

### How Mike Will Make Your Project A Success

Under Mike's leadership, Miller Legg develops project solutions that respond to the natural environment, respect the social fabric and create sustainable aesthetic spaces.

Mike's diverse professional experience will integrate environmental, planning and landscape architecture to achieve your project. The strength of his background in landscape design, combined with his experience working with FIU, will be invaluable to the success of this project.

#### AFFILIATIONS

*American Society of Landscape Architects, Fellow*

*American Society of Landscape Architects, Florida Executive Committee (Past Member)*

*Broward County Bicycle & Pedestrian Advisory Committee - Member*

*Broward Section, American Planning Association - Member*

*Broward Section, American Society of Landscape Architects - Past Chair*

*Florida Board of Landscape Architecture, Member 2013-2016*

*Florida Earth Foundation, Member, Engineering Advisory Committee - 2004-present*

*Florida Recreation and Park Association - Member*

*Florida Redevelopment Association - Member*

*Urban Land Institute - Member*

### FIU US Century Bank Arena Plaza

Miller Legg provided **landscape architecture services** as a subconsultant to Gould Evans for the design of the FIU US Century Bank Arena Plaza. The firm supplied planting, irrigation, lighting design, and assistance with the design of hardscape and site furnishing improvements. **The project was awarded a 2012 State of Florida AIA Merit Design Award.**



### City of Lauderdale Lakes C-13

#### Pedestrian Bridge, Area 1, Lauderdale Lakes, FL

For the design of this FDOT LAP-funded **pedestrian bridge** over the C-13 canal at NW 35 Avenue, Miller Legg provided a pedestrian link between the subdivisions of Oriole Estates and Northgate, giving residents on the south side of the canal access to the greenway trail being constructed on the north bank. Services included **landscape architecture**, surveying, **certified arborist services**, environmental permitting, SFWMD Canal ROW permitting, engineering and utility designation services, as well as geotechnical engineering services. This project ties into Broward County's Greenways System.

### FIU SW 10th Street Realignment & Roundabout

Miller Legg designed and permitted civil engineering plans for the spine road realignment at the northeast corner of the Modesto A. Maidique (Main) Campus of the Florida International University (FIU). Completion of this project assisted FIU in paving the way for future expansion of the northeast corridor of the main campus.



### SR 838/Sunrise Blvd. Bridge Over Middle River, Fort Lauderdale, FL

Miller Legg's Team provided in-house design services for the replacement of the Sunrise Blvd. Bridge over the Middle River. This project is a pilot project for the FDOT's BOLD Initiative instituted by the Governor. On-going extensive coordination with the City of Fort Lauderdale involves design efforts that include **special architectural wall/vertical features, landscape, hardscape and irrigation** to ensure a Context Sensitive Solution for an entry point to the eastern Fort Lauderdale beach communities along the Middle River. This project is part of a multi-year in-house continuing service contract for FDOT District 4.



### FIU Student Academic Support Center

As part of the current Florida International University (FIU) Facilities Program, construction of a Student Academic Support Center is planned for the Modesto Maidique campus. Miller Legg is providing **landscape architecture services** for the Student Activity Center, including design development, irrigation and construction administration.



# Alicia Gonzalez (Media Relations Group) Public Relations

## ***How Alicia Will Make Your Project A Success***

As a highly experienced team member (with both FDOT and the project corridor), Alicia will also serve as valuable Quality Assurance/Quality Control resource who can review all collaterals and project documents while guiding the project as it evolves from phase to phase and through major milestones for a successful outcome.

### **EXPERIENCE HIGHLIGHTS**

*Over 21 Years of Public Involvement Experience Specifically with Transportation Projects In Miami-Dade and Broward Counties*

*Significant experience working on multiple design projects over the past 15 years, including the previous D6 Districtwide PI contract in Miami-Dade County*

*Worked on high-profile contracts within the tri-county area, including the Corridor Design Consultant I-595 Express Corridor Improvements project, which was completed last year*

## ***Relevant Experience Summary***

Alicia Gonzalez is a public relations professional specializing in public involvement programs for infrastructure projects. She has served as a Principal of Media Relations Group, LLC, since its inception in 1999, successfully executing campaigns for the Florida Department of Transportation (Districts Four and Six), Miami-Dade Expressway Authority (MDX), and Florida's Turnpike Enterprise at all phases including Project Development and Environment (PD&E), Design, Design-Build and Construction. Alicia's experience includes serving as the Project Manager for the SR 826/SR 836 Interchange Reconstruction Project, the Ramp Signaling deployment in District Six, and she has also led several public information efforts for FDOT on the Design/Build team including 95 Express Phase 2.

### **FDOT DISTRICT FOUR - STATE ROAD (SR) 826/SR 836**

#### **INTERCHANGE RECONSTRUCTION, Miami-Dade County, FL**

Alicia oversees all public information strategies in coordination with this MDX and FDOT District Six design-build project. She is responsible for managing the production of all collateral materials and for overseeing website development. Alicia continues to work with the entire project team to develop an overall effective, cohesive marketing/public relations campaign.

### **FDOT DISTRICT FOUR - I-595 CORRIDOR, Broward County, FL**

Alicia oversaw all public information strategy in coordination with the District's Public Information Office for this design-build project. She was responsible for Quality Assurance/Quality Control measures for all public outreach materials, including the interactive website as well as extensive coordination with the media. She developed the elected official strategy and conducted many elected official briefings with affected municipalities.

### **FDOT DISTRICT FOUR AND SIX - 95 EXPRESS PHASE I & II/ SUNGUIDE TRANSPORTATION MANAGEMENT CENTER, Miami-Dade & Broward County, FL**

Alicia oversaw the efforts to successfully execute the public involvement campaign for the state of Florida's first ramp signaling system. She was responsible for conducting interviews with Spanish media during the launch of both phases of the Ramp Signaling program and for participating in the 95 Express System's official rollout, which became operational in January 2010. Phase II of this project commenced in 2011 and will involve creating all public information materials, such as project related newsletters. To date, Alicia has been involved in preparing the project Community Awareness Plan, attending project public meetings and presentations, coordinating elected official strategy and preparing initial outreach vision.



**BT-904 University City Infrastructure Improvements**

Data Date: 30-Sep-15

Current Date: 29-Sep-15

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2016												2017												2018											
						S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A
<b>BT-904 University City Infrastructure Improvements</b>						[Gantt Chart Summary]																																			
<b>Project Summary</b>						[Gantt Chart Summary]																																			
A1000	Technical Proposal Submittal	0	30-Sep-15		0	[Gantt Chart Summary]																																			
A1010	Price Proposal Submittal	0	28-Oct-15		0	[Gantt Chart Summary]																																			
A1020	Posting of Owner's Intended Decision to Award	0	19-Nov-15		0	[Gantt Chart Summary]																																			
A1030	Notice of Award	0	25-Nov-15		0	[Gantt Chart Summary]																																			
A1040	Anticipated Notice to Proceed	0	14-Jan-16		0	[Gantt Chart Summary]																																			
A1050	Design Period	344	14-Jan-16	22-Dec-16	260	[Gantt Chart Summary]																																			
A1060	Overall Construction Period	579	16-Dec-16	17-Jul-18	0	[Gantt Chart Summary]																																			
A1070	Materials Quality Tracking	488	23-Dec-16	24-Apr-18	55	[Gantt Chart Summary]																																			
A1080	Final Acceptance	0		17-Jul-18	0	[Gantt Chart Summary]																																			
A1090	Overall Project Duration	916	14-Jan-16	17-Jul-18	0	[Gantt Chart Summary]																																			
<b>Design and Permits</b>						[Gantt Chart Summary]																																			
A2400	Technical Proposal Plan Review Coordination with FIU	30	14-Jan-16	25-Feb-16	0	[Gantt Chart Summary]																																			
<b>Geotechnical &amp; Survey</b>						[Gantt Chart Summary]																																			
A1110	Geotechnical Investigation	25	14-Jan-16	18-Feb-16	121	[Gantt Chart Summary]																																			
A1120	Preliminary Geotechnical Report	15	19-Feb-16	10-Mar-16	121	[Gantt Chart Summary]																																			
A1125	Final Geotechnical Report	15	29-Apr-16	19-May-16	86	[Gantt Chart Summary]																																			
A1130	Set Survey Control and Stationing	25	14-Jan-16	18-Feb-16	207	[Gantt Chart Summary]																																			
<b>Permits</b>						[Gantt Chart Summary]																																			
A2170	Prepare SFWMD Permit Application	15	13-Jun-16	01-Jul-16	127	[Gantt Chart Summary]																																			
A2180	SFWMD & ACOE Review Permit Application	45	05-Jul-16	07-Sep-16	127	[Gantt Chart Summary]																																			
A2190	Respond to SFWMD & ACOE Review of Permit Application	5	08-Sep-16	14-Sep-16	127	[Gantt Chart Summary]																																			
A2200	SFWMD & ACOE Review and Approve Permit Application	15	15-Sep-16	05-Oct-16	127	[Gantt Chart Summary]																																			
A2250	Prepare City of Sweetwater Permit Application	15	13-Jun-16	01-Jul-16	77	[Gantt Chart Summary]																																			
A2260	City of Sweetwater Review Permit Application	15	05-Jul-16	25-Jul-16	77	[Gantt Chart Summary]																																			
A2270	Respond to City of Sweetwater Review of Permit Application	5	26-Jul-16	01-Aug-16	77	[Gantt Chart Summary]																																			
A2280	City of Sweetwater Review and Approve Permit Application	15	02-Aug-16	22-Aug-16	77	[Gantt Chart Summary]																																			
A2290	Prepare FDOT Permit Application	15	13-Jun-16	01-Jul-16	77	[Gantt Chart Summary]																																			
A2300	FDOT Review Permit Application	15	05-Jul-16	25-Jul-16	77	[Gantt Chart Summary]																																			
A2310	Respond to FDOT Review of Permit Application	5	26-Jul-16	01-Aug-16	77	[Gantt Chart Summary]																																			
A2320	FDOT Review and Approve Permit Application	15	02-Aug-16	22-Aug-16	77	[Gantt Chart Summary]																																			
A2330	Prepare MDPWD Permit Application	15	13-Jun-16	01-Jul-16	77	[Gantt Chart Summary]																																			
A2340	MDPWD Review Permit Application	15	05-Jul-16	25-Jul-16	77	[Gantt Chart Summary]																																			
A2350	Respond to MDPWD Review of Permit Application	5	26-Jul-16	01-Aug-16	77	[Gantt Chart Summary]																																			
A2360	MDPWD Review and Approve Permit Application	15	02-Aug-16	22-Aug-16	77	[Gantt Chart Summary]																																			
<b>Bridge Hydraulic Report</b>						[Gantt Chart Summary]																																			
A2710	Preliminary Bridge Hydraulic Report	30	14-Jan-16	25-Feb-16	116	[Gantt Chart Summary]																																			
A2720	Final Bridge Hydraulic Report	15	29-Apr-16	19-May-16	71	[Gantt Chart Summary]																																			
<b>Foundation</b>						[Gantt Chart Summary]																																			
A2410	Prepare 90% Foundation Plans	25	26-Feb-16	31-Mar-16	11	[Gantt Chart Summary]																																			
A2420	Owner Review 90% Foundation Plans	20	01-Apr-16	28-Apr-16	71	[Gantt Chart Summary]																																			
A2430	Address Owner Comments and Prepare 100% Foundation Plans	15	20-May-16	10-Jun-16	71	[Gantt Chart Summary]																																			
A2440	Owner Review 100% Foundation Plans	20	13-Jun-16	11-Jul-16	71	[Gantt Chart Summary]																																			
A2450	Issue RFC Foundation Plans	1	12-Jul-16	12-Jul-16	71	[Gantt Chart Summary]																																			
A2730	Prepare Shop Drawings	15	13-Jul-16	02-Aug-16	71	[Gantt Chart Summary]																																			

- ✓ Overall Project Duration is 916 days (169 days before contract requirement of 1085 days)
- ✓ Design Duration will be 11.5 months (or /344 days)
- ✓ Construction will start December 2016 and completed in 19 months
- ✓ Permitting will start in June 2016 and completed in less than 4 months
- ✓ Erect precast main span in July 2017
- ✓ Install pylon stays in (just before Christmas) December 2017
- ✓ Complete Project July 2018

█ Remaining Level of Effort   
 █ Critical Remaining Work   
  Summary  
█ Remaining Work   
 ◆ Baseline Milestone









## 4. INNOVATIVE ASPECTS

Our *Commitment to Innovation* includes the selection of cutting-edge design and construction methods and state-of-the-art design features. Durability and ease of maintenance are a major consideration when implementing innovative features to ensure the highest quality throughout the project service life. As a result, we have re-invented the definition of an I-beam, transforming it into a new contemporary shape that presents a functional sculpture that pedestrians can interact with like never before.

Our *Commitment to Sustainable Design and Construction* includes a focus on reducing operating costs, adding value by the most cost-effective and sustainable means, and protecting the health and environment of the UniversityCity stakeholders. As a result, we have provided many innovative, sustainable, and cost-effective options for exceeding the project requirements. Some key innovative aspects are included here in this two page summary.



*In celebration of FIU's commitment to design quality, the MCM+FIGG Design-Build Team will provide a design that is characterized by: intent, clarity, value, innovation, safety, constructability, sustainable design and construction, universal design, and active design.*

The *Innovative Functionality* of this shape includes the ability to utilize the top “flange” of the beam as a canopy, which will provide protection from the elements (sun, inclement weather) in addition to being the anchoring location for the stays.

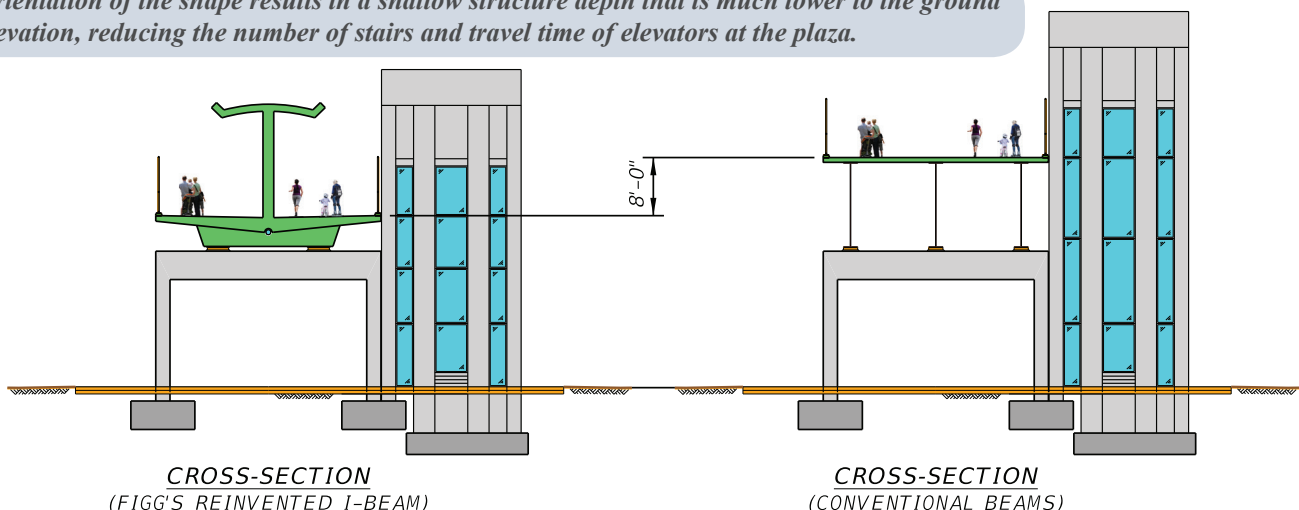
The *Innovative Form* of this shape is seen in the reduction of superstructure material beneath the walking surface. The superstructure walking surface is a closed shape with continuous flat planes for elegance and slenderness. This improves the architectural appeal of the structure, creating a more sleek and contemporary structure, resulting in a truly iconic bridge. The orientation of the shape results in a shallow structure depth that is much lower to the ground elevation, reducing the number of stairs and travel time of elevators at the plaza. This decreases materials and increases accessibility to encourage greater use.

### INNOVATIVE BRIDGE SHAPE

#### A FUNCTIONAL BRIDGE SCULPTURE (RE-INVENTING THE I-BEAM)

The superstructure shape for the new signature pedestrian bridge is innovative and one-of-a-kind. We have re-invented the traditional I-beam in a magnificent scale with a special transformation of an open truss down the middle, improving both its functionality and form for a 30' wide path.

*Orientation of the shape results in a shallow structure depth that is much lower to the ground elevation, reducing the number of stairs and travel time of elevators at the plaza.*



### INNOVATIVE CONSTRUCTION

#### ACCELERATED BRIDGE CONSTRUCTION (ABC)

The main span portion of the bridge will be erected using innovative Accelerated Bridge Construction (ABC) techniques which is an international program FIU is known for.



This method of erection offers several advantages over convention construction techniques over traffic.

- ✓ Decreased construction schedule
- ✓ Minimized impact on vehicular and pedestrian traffic during construction.
- ✓ Enhanced safety to vehicular traffic
- ✓ Increased construction safety because most activities occur in the staging yard, and not over traffic.

The Accelerated Bridge Construction Center at FIU is an invaluable resource and advocate in the United States for ABC, providing design and construction support, identifying research and resource needs, and developing new technologies. Our team looks forward to working collaboratively with the ABC Center throughout the project and showcasing the latest ABC technologies in the construction of this project on FIU campus.



A *Self-Propelled Modular Transporter (SPMT)* will be used for the erection of the main span truss system. This technique offers the shortest-possible on-site construction time. In addition, this will allow for the entire main span superstructure to be constructed as a single unit prior to erection.

A full description of the ABC techniques that will be used for this project, along with details on the proposed construction technology, is provided in Section 6: Design Support Documents and in the Structural Plans.

## INNOVATIVE TECHNOLOGY

### SOLAR FANS

These innovative, cost effective, low maintenance, solar-powered fans can provide several great functional benefits for the project as an option on the bridge deck canopy to maximize air flow and circulation on the bridge.



*Innovative, cost effective, low maintenance, solar-powered fans can provide greater air flow under the bridge canopy as an option.*

- ✓ **Sustainable Energy** – These fans operate directly from solar power during daylight, without any supplemental energy source. A solar battery tied to the fan is used to store energy and operate the fans under cloudy weather or nighttime.
- ✓ **Innovative and Efficient** – Specially designed blades allow the fan to produce 40% more air flow without an increase in power consumption.
- ✓ **Low Maintenance** – Stainless steel ensures the fan will be resilient despite weather and age. These fans stand alone and do not require supplemental electricity.

## INNOVATIVE SUSTAINABILITY

### LEED NEIGHBORHOOD DEVELOPMENT

We will ensure the project achieves at least a Silver rating for LEED Neighborhood Development. The project will be uniquely designed to provide *Smart Location and Linkage, complement the Neighborhood Pattern and Design (fulfill the Complete Streets vision), establish Green Infrastructure, and incorporate innovation and sustainability into the Design Process.*



### INVEST

Through the establishment, implementation, and management of context-sensitive sustainability initiatives throughout the planning, design, and construction phases, the project will achieve a *Platinum* rating for INVEST 1.2 Project Development. This will be achieved with the leadership of Sustainability Manager, Linda Figg.



A full description of sustainability initiatives for LEED and INVEST 1.2 is provided in Section 6: Design Support Documents.

# 5. QUALITY MANAGEMENT PLAN

The MCM+FIGG Design-Build Team will implement a comprehensive, ISO 9001 level Quality Management Systems-compliant Quality Management Plan (QMP) as added value that will be customized for this project and supported by the Design Quality Management Plan (DQMP) and the Construction Quality Control Plan (CQCP). These plans will be coordinated so that common quality management system requirements, such as document control, process auditing, and corrective and preventive action will be addressed with a single successful approach. This will ensure the work meets the requirements of the contract documents with documented evidence that will be maintained for the full duration of the project.

Our QMP will provide Quality Control (QC) procedures utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as part of the contract. As part of the QMP, a detailed Quality Assurance (QA) program will ensure that all QC procedures are followed. All members of the MCM+FIGG Design-Build Team, including design team members and subcontractors at all tiers will strictly follow the QMP.

A major component of this QMP is our coordination plan. This coordination plan consists of both internal- and external facets. Our internal coordination plan focuses on efficient and seamless communication for implementing design approaches and decisions. Our basic protocol is shown below.

<i>Quality Management Plan Communication</i>	
<i>Activity</i>	<i>Action</i>
<i>Weekly Meeting Design Build Team</i>	Key team members of all disciplines prioritize action items and updated 2 week and monthly look ahead schedules.
<i>Weekly Meeting FIU, Project PIO, CEI Teams, Design-Build Team</i>	Fully coordinated decisions, reviews, and schedule to keep everyone informed.
<i>Quality Documentation</i>	Each step of the QA/QC process as given in the flow chart and described in the DQMP and CQCP are documented for success.

## DESIGN QUALITY MANAGEMENT PLAN (DQMP)

The Design Quality Management Plan (DQMP) will detail key personnel and responsibilities and provide guidelines for the Design Quality Process including Technical, Oversight and Constructability Reviews. Key elements include, but are not limited to:

- ✓ **QMP Training** for the design team on the DQMP and detailed Quality Control processes
- ✓ **Quality Control** through design checking process to validate design document review and processing including plans, specifications, calculations
- ✓ **Constructability Review** by our constructability experts, who will work closely with design to develop the safest and most constructible designs for each operation.
- ✓ **Interdisciplinary Review** by all design disciplines prior to submittal to resolve conflicts and ensure integration.
- ✓ **Independent Review** performed prior to 90% and Final component submittal to FIU by a different design office that will compare calculations to original design to verify adequacy.
- ✓ **Quality Control Audit** of the QC procedures and forms required to track the processes described above, including a sign off on all design drawings and submittals prior to submittal to FIU. Provisions for QA audits by FIU will be integrated with the DQMP.
- ✓ **Over-the-Shoulder Reviews** providing opportunities for FIU to review the design prior to submittals.
- ✓ A major component of the DQMP will be the **coordination of reviews and resolution of comments** to ensure that all submittals will be implemented flawlessly in the field. This guarantee will be reinforced by the use of a **Project FTP Site to centralize all design documentation, and to make it remotely available to FIU at all times.**

*Our quality program will be administered by a dedicated team of quality management professionals with a proven history of successfully implementing comprehensive quality programs.*

**PRINCIPAL IN CHARGE**

**Jorge Munilla (MCM)**



**DESIGN QUALITY MANAGER (DQM)**

**Ken Heil (FIGG)**

**INDEPENDENT DESIGN**

*Independent design team not involved in the original design for complete evaluation*

**CONSTRUCTION QUALITY MANAGER (DCM)**

**Carlos Hernandez**

**CONSTRUCTABILITY REVIEWS**

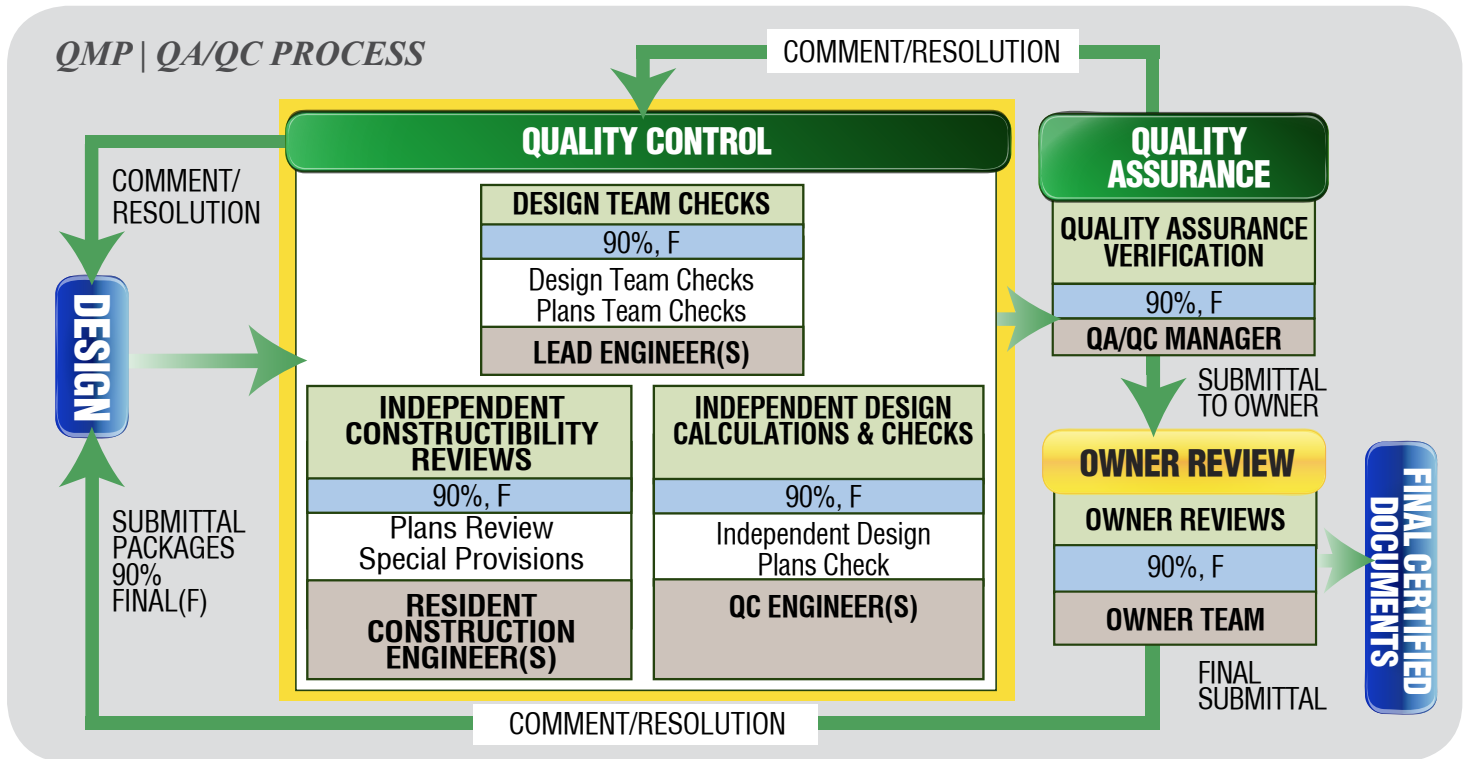
*Construction team performs constructability reviews for each discipline of work*

*Ken Heil led the Design Quality team for the Honolulu High-Capacity Bridges Design-Build (over \$800M, 10 miles) to ensure that all aspects of the design followed the DQMP procedures.*

*Carlos Hernandez brings experience in this same exact role on the FL SR 953 (Le Jeune) Flyover project. He managed all aspects of the QMP with strict ISO 9001 requirements. He was also responsible for the preparation of all closeout files.*



## QMP | QA/QC PROCESS



## CONSTRUCTION QUALITY CONTROL PLAN (CQCP)

The Construction Quality Control Plan (CQCP) will establish the guidelines for quality control, key personnel, and processes to be implemented. A project CQCP will be submitted within 15 days of NTP.

The CQCP will establish the guidelines for implementing the *formal review process* conducted by independent, highly qualified professionals to implement an effective document control process to ensure the project is constructed in compliance with all applicable FIU, Miami-Dade County, FDOT manuals and guidelines, FIU QA/QC requirements and state and federal laws and regulations.

Compliance with our CQCP will be documented through: daily reports, regulatory agency inspections, manufacturers’ reports, and the Design-Build Team’s field observations. Copies of all inspection reports are maintained electronically in MCM’s servers. As a task is completed, MCM conducts an internal inspection to ensure compliance with the Contract Documents and the approved submittals. As-built data is gathered and compiled in our field office, and is verified for completion weekly by our project manager.

This process is repeated on a task-by-task basis until a phase or the area nears completion, at which point MCM implements a pre-punchlist survey. A standardized form is prepared for each space nearing completion and as the various trades complete their scopes of work the superintendent will walk the area and ensure it is for inspection. Documentation is provided to subcontractors and remain electronically archived, while the posted copy is updated daily to reflect the dates on which items are fully completed.

The *Construction Quality Control Manager* will be the primary contact for FIU and the CEI for all quality related items. They will closely follow the project approved CQCP and monitor all processes.



*FIGG set a new gold standard for quality control with the new I-35W Bridge in Minneapolis. This is the same process we commit to your project.*

*The MCM+FIGG Design-Build Team understands the quality control process and is committed to excellence and the highest quality during the design and construction of the project.*



## **Section 6: Design Support Documents**

- 6.1 Design and Construction Criteria
- 6.2 Accelerated Bridge Construction
- 6.3 Natural Frequency Design
- 6.4 Achieving INVEST Platinum Rating for Project Development
- 6.5 Achieving LEED Silver Rating for Neighborhood Development



## 6.1 DESIGN AND CONSTRUCTION CRITERIA

### A. GENERAL

The MCM+FIGG Design-Build Team commits to provide the following: detailed plan checking as outlined in the Plans Preparation Manual (PPM); as described in the RFP; and the Design and Construction criteria package. This includes a checklist of the items listed in the PPM for each completed phase submittal. We will work with the owner to determine the best submittal approach and organization. As an example, bridge submittals may be broken into architecture, foundation, substructure, superstructure, approach spans and main channel spans. Roadway submittals may be broken down into grading, drainage, walls, ITS, signing & pavement marking, architecture, landscaping, hardscape, signalization, lighting and final geometry components. The component design is in conformity with the Design and Construction Criteria requirements, approved preliminary layout and concept as provided in the Technical Proposal.

Signed and sealed design plans and calculations supporting the design of a component will be submitted to the owner for review before construction activities can begin for that specific component. Component submittals will be complete including all the supporting information necessary for review. We will construct the work in a logical manner and will show impacts on subsequent work on this Project. We understand that any modification to the component construction due to subsequent design changes as the result of design development is solely the MCM+FIGG Design-Build Team's risk. Upon review by the owner, the plans will be stamped "Released for Construction" and initialed and dated by the reviewer. We understand that any construction initiated prior to receiving signed and sealed plans stamped "Released for Construction" shall be at the sole risk of the MCM+FIGG Design-Build Team.

Bridge plans will go through a peer review analysis by an independent engineering office not involved with the production of the design or plans, prior to submittal to the owner. The peer review will consist of an independent design check, a check of the plans, and a verification that the design is in accordance with AASHTO, FDOT, and other criteria as herein referenced. Our Team understands that the cost of the peer review shall be incurred by the firm. The independent peer review engineer's comments and comment responses will be included in the 90% plans submittal. At the final plans submittal, the independent peer review engineer will sign and seal a cover letter certifying the final design and stating that all comments have been addressed and resolved.

All design and construction work completed under the Contract will be in accordance with the United States Standard Measures.

### B. GEOTECHNICAL SERVICES

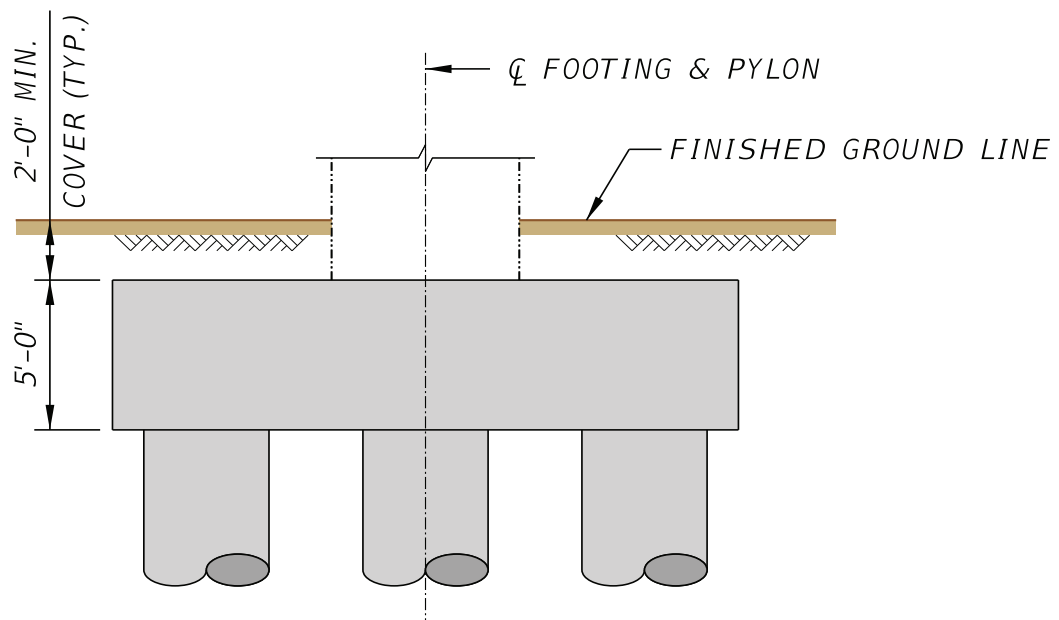
The MCM+FIGG Design-Build Team commits to perform a subsurface investigation, analysis and design for all aspects of the project in accordance with FDOT standards, policies and procedures. Existing subsurface information may be used. Supplemental subsurface investigation and testing will be used to ensure all aspects of the project are covered.

#### DRILLED SHAFT FOUNDATIONS FOR BRIDGES AND MISCELLANEOUS STRUCTURES

The MCM+FIGG Design-Build Team will utilize resistance factors that are based on FDOT Standards and not increased due to static or dynamic load testing.

**The MCM+FIGG Design-Build Team commits to the following items:**

1. Evaluate geotechnical conditions to determine the drilled shaft diameter and length and construction methods to be used.
2. Perform the subsurface investigation and drilling pilot holes prior to establishing the drilled shaft tip elevations and socket requirements. For redundant drilled shaft bridge foundations, at least one test boring will be performed in accordance with the Soils and Foundations Handbook at the pylon.
3. Perform pilot borings for test holes (also known as test shafts or method shafts) and provide the results to the owner at least one (1) working day before beginning construction of these shafts.
4. Prepare and submit a Drilled Shaft Installation Plan for the owner's acceptance.
5. Construct the method shaft (test hole) successfully and conduct integrity tests on these shafts.
6. Determine the production shaft lengths.
7. Document and provide a report that includes analysis and recommendations to the owner.
8. Construct all drilled shafts to the required tip elevation and socket requirement in accordance with the specifications.
9. Inspect and document the construction of all drilled shafts in accordance with the specifications.
10. For redundant drilled shaft bridge foundations and drilled shafts for miscellaneous structures, perform CSL or Thermal Integrity testing on any shaft suspected of containing defects.
11. Repair all detected defects and conduct post repair integrity testing using 3D tomographic imaging and gamma-gamma density logging.



## ELEVATION

12. Submit Foundation Certification Packages in accordance with the specifications.
13. Provide safe access, and cooperate with the owner in verification of the drilled shafts, both during construction and after submittal of the certification package.

- ✓ Military Trail/Palm Beach County, Client: FDOT D4
- ✓ Utility Coordination Districtwide, Client: FDOT D6
- ✓ NW 87th Avenue Interchange Improvements at SR-836, Client: MDX

### C. UTILITY COORDINATION

The MCM+FIGG Design-Build Team is responsible for all utility coordination and relocations and will utilize a single dedicated person responsible for managing all utility coordination. This person will be contractually referred to as the Utility Coordination Manager and will be identified in our Team's proposal. We will notify the OWNER in writing of any change in the identity of the Utility Coordination Manager. The Utility Coordination Manager is required to have the following knowledge, skills, and abilities:

1. A minimum of 4 years of experience performing utility coordination in accordance with Department standards, policies, and procedures.
2. Knowledge of the Department plans production process and utility coordination practices.
3. Knowledge of Department agreements, standards, policies, and procedures.

The person chosen for this position is Lisette M. Guon from A&P Consulting Transportation Engineers. Mrs. Guon has more than 13 years of experience working as a Utility Coordinator and Transportation Engineer. As a Utility Coordinator, Mrs. Guon has worked on numerous projects including Utility Coordination for the following projects:

- ✓ Design Build Project of Section 5 SR-826/SR836 Interchange/Miami Dade County, Client: FDOT D6
- ✓ Design Build Project of Central Boulevard/Miami Dade County for MDX

The Scope of Services for this project requires an early identification of conflicts with existing utilities, and that is why A&P Consulting Transportation Engineers have already established coordination with the Utility Agency Owners (UAO's) having facilities within the project limits. There are existing FPL-Transmission overhead lines that are in potential conflict with the proposed pedestrian bridge. FPL-Transmission anticipated the relocation of four (4) concrete pole structures. A&P understands that immediate coordination with this UAO is critical due to the complex nature of this type of relocation. Also, A&P will coordinate with FPL-Transmission for the de-energization of the overhead lines for the crane and signalization work at this intersection.

Coordination with FPL-Distribution will be necessary for the relocation of existing overhead electric line running parallel to SW 7th Terrace, due to the extension of the proposed bridge to the north of existing canal. Also, A&P will require coordination with FPL-Distribution for the point of connection for Service points to serve the traffic signal, the proposed lighting and control room for the bridge elevators. FPL-Distribution's representative indicated during a conversation with A&P that temporarily during construction the Transformer located on the parking lot close to this area could serve any need for power. A&P is aware of FPL-Distribution concerns about not having any heavy bridge structure or piling on top of the existing buried electric in this area. A&P will coordinate with their design team that this BE line is not impacted during construction and will maintain a close coordination with FPL-Distribution's representative Bob Flowers.

A&P will ensure that any potential utility conflicts be minimized by starting early and close coordination with all UAOs,



verifying existing utility locations with proposed improvements, scheduling utility meetings early on in the coordination process, resolving all utility conflicts in a short period of time, producing conflict matrices and performing constructability reviews. Providing weekly project updates to the Project Manager, FIU team, the FDOT District Utility Office, and all affected utility companies, will keep all affected parties apprised of the coordination status.

A&P is fully aware of the eight UAOs with existing facilities within the project limits, and have already established communication with most of them to mitigate utility conflicts as possible. A&P will be responsible for completing utility coordination and relocation with all identified as well as potentially unidentified UAOs shown in the Concept Plans and RFP documents.

A&P understands that the design must ensure that access/maintenance activities can continue by each utility Agency Owner. Moreover, A&P will directly oversee any necessary utility relocation of existing utilities and will ensure that the proposed utilities provide service that is equivalent to what is currently offered. It is imperative to A&P that utility service is not interrupted to any customers during the construction of this project.

## D. CIVIL ENGINEERING PLANS

### GENERAL

The MCM+FIGG Design-Build Team will prepare the Civil Plans Package. This work effort includes the roadway design and drainage analysis needed to prepare a complete set of Roadway Plans, Pedestrian Facility Plans, Traffic Control Plans, Environmental Permits and other necessary documents.

### DESIGN ANALYSIS

The MCM+FIGG Design-Build Team will develop and submit a signed and sealed Typical Section Package, Pavement Design Package and Drainage Analysis Report for review and concurrence by the owner.

We understand that any deviation from the owner's design criteria will require a design variation and any deviation from AASHTO will require a design exception. All such design variations and exceptions must be approved.

**These packages will include the following:**

**1. Roadway Design: PPM Volume 2, Chapter 2 will be used for elements and completion level required.**

**2. Typical Section Package:**

- ✓ Transmittal letter
- ✓ Location map
- ✓ Roadway Typical Sections: pavement description (includes milling depth); minimum lane, shoulder, median widths; slopes requirements; barriers; right of way.

- ✓ Data sheet
- ✓ Design speed

### 3. Drainage Analysis

The MCM+FIGG Design-Build Team will be responsible for designing the modifications to the existing drainage and storm-water management systems required to accommodate the site improvements. All design work will comply with the FDOT's Drainage Manual; Florida Administrative Code, chapter 14-86; Federal Aid Policy Guide 23 CFR 650A; FIU Design Standards; and the requirements of the regulatory agencies. This work will include the engineering analysis necessary to design any or all of the following: cross drains, French drains, roadway ditches, outfall ditches, storm sewers, retention/detention facilities, interchange drainage and water management, other drainage systems and elements of systems as required for a complete analysis. Full coordination with all permitting agencies will be required from the outset. Full documentation of all meetings and decisions will be submitted to the owner.

The existing drainage along NW 109th Avenue consists of a positive drainage system with storm gutters and an exfiltration trench system that discharge into the C-4 canal via an overflow weir. The proposed drainage will be adjusted to accommodate the widening of the road. The ERP Permit 13-02009-P, application No. 021024-5 will need to be modified (minor modification) as well as Right-of-Way Permit No. 13449.

The exact number of drainage basins, outfalls and water management facilities (retention/detention areas, weirs, etc.) will be the responsibility of the MCM+FIGG Design-Build Team. We will perform design and generate construction plans documenting the permitted systems function to criteria.

We will verify that all existing cross drains and storm sewers that are to remain have adequate hydraulic capacity and design life. Flood flow requirements will be determined in accordance with the FDOT's procedures. If any of these existing cross drains or storm sewers are found to be hydraulically inadequate or found to have insufficient design life, they will be replaced or supplemented in accordance with the drainage requirements of this RFP. If any existing cross drains or storm sewers require repairs but otherwise would have sufficient remaining design life, repairs will be made in accordance with the requirements of this RFP.

We will consider optional culvert materials in accordance with the FDOT's Drainage Manual Criteria. We will provide the owner a signed and sealed Drainage Design Report. Records will be kept of all drainage computations, both hydrologic and hydraulic. The engineer will include all necessary support data.

## E. GEOMETRIC

---

The MCM+FIGG Design-Build Team will prepare the geometric design for the Project using the Design Standards that are most appropriate with proper consideration given to the design traffic volumes, adjacent land use, design consistency, aesthetics, ADA requirements and RFP.

The design elements will include, but not be limited to, the horizontal and vertical alignments, lane widths, shoulder widths, median widths, cross slopes, borders, sight distance, side slopes, front slopes and ditches. The geometric design developed by our Team will not merely be an adherence to the minimum AASHTO and/or Department standards.

## F. DESIGN DOCUMENTATION, CALCULATIONS, AND COMPUTATIONS

---

The MCM+FIGG Design-Build Team will submit to the owner design documentation, notes, calculations, and computations to document the design conclusions reached during the development of the construction plans.

The design documentation, notes, calculations and computations will include, but not be limited to the following data:

1. Design Standards used for the Project.
2. Geometric design calculations for horizontal alignments.
3. Vertical geometry calculations.
4. Documentation of decisions reached resulting from meetings, telephone conversations or site visits.

## G. STRUCTURE PLANS

---

### 1. Bridge Design Analysis:

- a. The MCM+FIGG Design-Build Team will submit to the owner final signed and sealed design documentation prepared during the development of the plans.
- b. We will make sure that the final geotechnical and hydraulic recommendations and reports required for bridge design are submitted with the 90% bridge plans.
- c. Our Team will evaluate scour on all bridges over water and the canal retaining wall system using the procedures described in HEC 18.
- d. Any erection, demolition, and any proposed sheeting and/or shoring plans that may potentially impact the railroad must be submitted to and approved by the railroad. This applies to areas adjacent to, within and over railroad rights of ways. This is not applicable to this Project.
- e. The Engineer of Record for bridges will analyze the effects of the construction related loads on the permanent structure. These effects include but are not limited to: construction equipment loads, change in segment length, change in construction sequence, etc. The Engineer of Record will

review all specialty engineer submittals (camber curves, falseworks systems, etc.) to ensure compliance with the contract plan requirements and intent.

### 2. Criteria:

The MCM+FIGG Design-Build Team will incorporate the following into the design of this facility:

- a. All plans and designs will be prepared in accordance with AASHTO LRFD Bridge Design Specifications, Department Standard Specifications, Structures Manual, Plans Preparation Manual, Department Standard Drawings, Supplemental Specifications, Special Provisions, and directions from the State Structures Design Engineer, Temporary Design Bulletins, Structures Design Office and / or District Structures Design Engineer.
- b. Bridge Widening is not required for this Project.
- c. Critical Temporary Retaining Walls: Whenever the construction of a structural component (such as a wall, footing, or other such component) requires excavation that may endanger the public or an existing structure that is in use, we will protect the existing facility and the public. If a critical temporary retaining wall is, therefore, required during the construction stage only, it may be removed and reused after completion of the work. Such systems as steel sheet pilings, soldier beams and lagging or other similar systems are commonly used. In such cases, we will be responsible for designing and detailing the wall in the set of contract plans. These plans will be signed and sealed by the Structural Engineer in responsible charge of the wall design.

For this Project, the design of temporary critical sheet piles will be closely coordinated with the maintenance of traffic discipline to ensure the safety of the traveling public adjacent to an excavation. We will confirm location of all existing utilities to avoid impacts that may delay operations and construction schedule. The sheet piles will be designed to satisfy deflection and strength requirements in accordance with FDOT Structures Design Guidelines and AASHTO LRFD criteria. It is anticipated that after construction of the pylon footing, all temporary sheeting will be removed.

## H. SPECIFICATIONS

---

The MCM+FIGG Design-Build Team understands that the FDOT Specifications may not be modified or revised. We will include all Technical Special Provisions which apply to the work in the Proposal. We understand that Technical Special Provisions shall be written only for items not addressed by Department Specifications and shall not be used as a means of changing Department Specifications.

Our Team will prepare and submit a signed and sealed Construction Specifications Package for the Project before construction activities begin. The Specifications Package will contain all applicable Division II and III Special Provisions and Supplemental Specifications from the Specifications Workbook in effect at the time the Bid Price Proposals were submitted. The



Specifications Package will be prepared, signed, and sealed by the MCM+FIGG Design-Build Team's Engineer of Record.

The signed and sealed Specifications Package will also include individually signed and sealed Technical Special Provisions for any and all work not addressed by Department Specifications. We understand that any Technical Special Provisions included in the signed and sealed Construction Specifications Package which were not included in the proposal phase will require a contract cost modification as a condition of approval. Upon review by the Owner, the Construction Specifications Package will be stamped "Released for Construction" and initialed and dated by the reviewer.

Any subsequent modifications to the Construction Specifications Package will be prepared, signed, and sealed as a Supplemental Specifications Package subject to the same process for submittal, review, and release for construction as described above for the original Construction Specifications Package. Construction work affected by Supplemental Specifications Packages will not begin until the stamped "Released for Construction" Supplemental Specification Package is obtained.

The MCM+FIGG Design-Build Team understands that all work performed in advance of the Owner's release of Specifications will be at our Team's risk. We understand that to begin work prior to the Owner's Project Manager providing stamped "Release for Construction" specifications, our Team must submit signed and sealed specifications and notify the Owner five (5) days prior to starting work at risk.

## I. SHOP DRAWINGS

The MCM+FIGG Design-Build Team will be responsible for the preparation and approval of all Shop Drawings. Shop Drawings will be prepared in conformance with the FDOT Plans Preparation Manual and will be stamped and signed by the MCM+FIGG Design-Build Team's Engineer of Record (EOR) and Specialty Engineer, as appropriate. The Owner, or Owner's CEI Consultant, will review the Shop Drawing(s) to evaluate compliance with Project requirements and provide any findings to our Team. The Owner's procedural review of shop drawings is to assure that the MCM+FIGG Design-Build Team's EOR has approved and signed the drawing, the drawing has been independently reviewed, and the drawing is in general conformance with the plans. We understand that the Owner's review is not meant to be a complete and detailed review. Upon review of the shop drawing, the Owner, or Owner's CEI Consultant, will stamp "Released for Construction" or "Released for Construction as noted" and initial and date the drawing. We will provide sufficient information for adjoining components or areas of work to allow for proper evaluation of the Shop Drawing(s) submitted for review.

## J. SEQUENCE OF CONSTRUCTION

The MCM+FIGG Design-Build Team will construct the work in a logical manner with the following objectives as guides:

1. Maintain or improve, to the maximum extent possible, the

quality of existing traffic operations, both in terms of flow rate and safety, throughout the duration of the Project.

2. Minimize the number of different Traffic Control Plan (TCP) phases, i.e., number of different diversions and detours for a given traffic movement.
3. Take advantage of newly constructed portions of the permanent facility as soon as possible when it is in the best interest of traffic operations and construction activity.
4. Maintain reasonable direct access to adjacent properties at all times, with the exception in areas of limited access right-of-way where direct access is not permitted.
5. Proper coordination with adjacent construction Projects and maintaining agencies.

## K. STORMWATER POLLUTION PREVENTION PLANS (SWPPP)

The MCM+FIGG Design-Build Team will prepare Erosion Control Plans to comply with Storm Water Pollution Prevention Plan (SWPPP) as required by the National Pollution Discharge Elimination System (NPDES). The SWPPP will be prepared in accordance with the Plans Preparation Manual (PPM). The Erosion Control Plan will be prepared in accordance with the Florida Department of Environmental Protection (FDEP) Rule 62-25 requirements. Existing and proposed drainage structures will be protected via rock bags or synthetic bales and floating turbidity barriers will be installed in the canal. The Erosion Control Plan will be submitted along with our Team's Certification at least 15 working days prior to beginning construction activities.

## L. TEMPORARY TRAFFIC CONTROL PLAN

### 1. Traffic Control Analysis:

Temporary Traffic Control Plans will be prepared to move vehicular and pedestrian traffic during all phases of construction. Construction phasing has been prepared to ensure advancements in schedule and a successful project completion. Positive drainage will be maintained at all times.

The Temporary Traffic Control Plans will be prepared by a certified designer who has completed the FDOT's training course, and in accordance with FDOT Design Standards and the Roadway Preparation Manual.

### 2. Temporary Traffic Control Plans:

We will utilize Index Series 600 of the Department's Design Standards where applicable. Should these standards be inadequate, a detailed Temporary Traffic Control Plan will be developed. We will prepare plan sheets, notes, and details to include the following: typical section sheet(s), general notes and construction sequence sheet(s), typical detail sheet(s), traffic control plan sheet(s). We will prepare additional plan sheets such as cross sections, profiles, drainage structures, retaining wall details, and sheet piling as necessary for proper construction

and implementation of the Temporary Traffic Control Plan.

It has been anticipated that temporary Type K barrier walls will be used in areas requiring temporary barrier walls (where drop offs exist within the clear zone) due to their enhanced capacity (larger slot areas). Temporary shoulders will be designed with spread requirements in mind. Detour Plans will be prepared for the overhead work at SW 8TH Street. We will ensure proper notification and coordination with all stakeholders through our proactive Public Involvement.

### 3. Traffic Control Restrictions:

The MCM+FIGG Design-Build Team does not anticipate using Pacing Operations with this work due to the relative proximity of intersections and the time needed to complete the overhead work. We are aware of the allowable lane closures only during non-peak hours on non-event nights, namely from 9:00 PM to 5:30 AM Sunday through Thursday and from 11:00 PM to 7:00 AM on Friday and Saturday Nights. All lane closures, including ramp closures, will be reported to the local emergency agencies, the media and the owner. Also, We understand that the Project should be able to provide for all lanes of traffic to be open in the event of an emergency.

## M. ENVIRONMENTAL SERVICES/ PERMITS/MITIGATION:

The MCM+FIGG Design-Build Team will be responsible for preparing designs and proposing construction methods that are allowable. All permits required for a particular construction activity must be acquired prior to commencing the particular construction activity. Our Team commits to prepare and submit to the applicable agencies all permit applications, as needed. We will be responsible for any required permit fees. Delays due to incomplete or erroneous permit application packages, agency rejection, agency denials, agency processing time, or any permit violations, except as provided herein, will be the responsibility of our Team, and will not be considered sufficient reason for time extension or additional compensation. As the permittee, the owner is responsible for reviewing, approving, and signing the permit application package including all permit modifications, or subsequent permit applications.

We will be in coordination with regulatory agencies which shall occur to obtain permits for the project from the South Florida Water Management District (SFWMD), Florida Department of Transportation (FDOT), US Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), and Miami-Dade County Regulatory and Economic Resources (RER) for construction within the canal and roadway right-of-ways and water quality impacts.

If, as a result of design changes proposed by our Team, compensatory environmental mitigation is required, it shall be the responsibility of our Team to pay for the mitigation.

The following Project specific Environmental Services/Permits have been identified as specific requirements for this project in

which the MCM+FIGG Design-Build Team is responsible:

### 1. NEPA Requirements

In accordance with the National Environment Policy Act (NEPA), several environmental agency coordination meetings and concurrence reviews have been ongoing for the Project. The owner will continue to coordinate with these agencies and provide additional information or surveys as requested throughout the design and construction phases. Staging areas and/or off-site pond areas will require review for all NEPA related issues during final design.

The products of a NEPA study are the reports of findings and recommendations, appropriate environmental documents and preliminary engineering concepts. This Project was processed as a Minor Type 2 Categorical Exclusion (CE). 23 CFR Part 771.129(c) states that “after approval of the EIS, FONSI, or CE designation, the applicant shall consult with the Administration prior to requesting any major approvals or grants to establish whether or not the approved environmental document or CE designation remains valid for the requested Administration action”. This consultation effort is accomplished through the reevaluation process. Reevaluations serve to ensure project compliance with all applicable federal and state laws prior to the advancement of the project to the next major production phase (preliminary engineering, right-of-way acquisition, or construction advertisement).

The reevaluation process also provides the mechanisms whereby commitments made by the owner during the project development process are identified, updated, and their status given. Any new commitments or laws which may have come into effect since the approval of the original CE designation are addressed in the reevaluation.

The reevaluation is the only instrument available to fully document compliance with federal laws and any changes that may have occurred on a project since the approval of the original final environmental document or CE designation. The extent and complexity of the reevaluation is, therefore, contingent upon the project’s status at the time the reevaluation is prepared; changes to the affected environment since the approval of the original environmental document or CE designation, and the purpose of the reevaluation (e.g., design change).

### 2. Cultural Resources

The location of culturally significant sites located along the project corridor is provided in the Cultural Resource Assessment Survey (CRAS), of the NEPA documentation. A total of seven historic resources within the historic resources Area of Potential Effect (APE) have been identified within the project vicinity as follows: the Tamiami Canal (8DA6453), Tamiami Trail (8DA6510), Sweetwater Bridge (8DA3294), and four buildings (8DA13869– 8DA13872). Utilization of historic and / or archaeological sites for staging or stockpiling activities will not be permitted.

As identified within the NEPA documentation, the NRHP-Eligible Sweetwater Bridge (8DA3294) is within the vicinity of the Project. During construction the following methods will be



used to avoid impacts:

- ✓ Implement low-vibratory construction methods to avoid damaging the Sweetwater Bridge.
- ✓ Implement staging in a way that will avoid impacting the Sweetwater Bridge.

The MCM+FIGG Design-Build Team will comply with the requirements with respect to the discovery of human remains during construction. In the event that human remains are found during construction activities, the provisions of Chapter 872.05, F.S. will apply. Florida Statute Chapter 872.05 states that, when human remains are encountered, all activity that might disturb the remains shall cease and may not resume until authorized by the State Medical Examiner or the State Archaeologist.

### 3. Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 provides protection for publicly owned parks, recreation areas, historic sites, wildlife, and waterfowl refuges from conversion to a transportation use. FHWA guidance requires that any impacts from the use of a Section 4(f) property for highway purposes be evaluated. The James M. Beasley Linear Park travels along the north side of the C-4 Canal. The Owner completed an assessment of the Project's potential impacts on the identified resources and it was determined that the Project was exempt from Section 4(f) since the proposed improvements will enhance and not impair the activities, features, or attributes of this 4(f) property.

We understand that the following areas shall not be entered without prior consent of the City of Sweetwater and/or FDOT/FHWA as coordinated through the Owner: any public park, archaeological sites identified in the CRAS documents prepared for the Project, or any other Section 4(f) Resource.

### 4. Wetlands, Mitigation, Wildlife and Habitat

The MCM+FIGG Design-Build Team will review the Endangered Species Biological Assessment (ESBA) prepared for the Project. The Project is not anticipated to have impacts to existing wetlands; however, surface waters may be impacted by the installation of the canal bulkhead. Compensatory mitigation is not anticipated for these surface water impacts. Current NPDES criteria and Best Management Practices will be implemented to avoid impacts to water quality and existing wetlands and surface waters located within and outside the project limits. We understand that if, as a result of the proposed design, compensatory environmental mitigation is required, it shall be the responsibility of the MCM+FIGG Design-Build Team to pay for the mitigation.

The ESBA determined that the American Alligator, Eastern Indigo Snake, Wood Stork, Florida Bonneted Bat, and West Indian Manatee have potential to occur in the Project corridor. We will comply with the following commitments the Owner made regarding the Federally-listed species with potential to occur in the corridor:

- ✓ We will follow the USFWS Standard Protection Measures

for the Eastern Indigo Snake during implementation of the Project.

- ✓ We will follow the Florida Fish and Wildlife Conservation Commission (FWC) Standard Manatee Conditions for In-Water Work during implementation of the Project.

We will comply with conditions specified in the permits and NEPA documents regarding the protection and precautionary guidelines for any endangered species.

## 5. Contamination

In accordance with FDOT policy and FHWA requirements, a Contamination Screening Evaluation Report (CSER) was prepared for the project corridor during the NEPA Study phase to determine the potential for contamination involvement associated with project construction. The CSER is included in the NEPA documentation. We will review the referenced document which discusses known or suspected contamination on the project corridor. We will then schedule an Environmental Coordination meeting with the owner to discuss the contamination-based issues on the project. After this meeting additional contamination assessment may be conducted by the owner if warranted.

The MCM+FIGG Design-Build Team will be responsible to provide plans to the owner for review and approval upon further development of the Project design within the areas deemed potentially contaminated. This is of particular importance in areas including – but not limited to – new alignment, stormwater management facilities (i.e. stormwater pond), mast arm locations, elevated roadways or deep foundations. We will make every effort to avoid placing a stormwater management facility on a contaminated site.

### UNIDENTIFIED AREAS OF CONTAMINATION

When encountering or exposing any abnormal condition indicating the presence of a hazardous or toxic waste, or contaminants, the MCM+FIGG Design-Build Team will cease operations immediately in the vicinity and notify the owner or designee Engineer. The presence of tanks or barrels; discolored earth, metal, wood, ground water, etc.; visible fumes; abnormal odors; excessively hot earth; smoke; or other conditions that appear abnormal may indicate hazardous or toxic wastes or contaminants and will be treated with extreme caution.

We will make every effort to minimize the spread of contamination into uncontaminated areas, immediately provide for the health and safety of all workers at the job site, and make provisions necessary for the health and safety of the public that may be exposed to any potentially hazardous conditions. Provisions will meet all applicable local, State, and Federal laws, rules, regulations or codes covering hazardous conditions and will be in a manner commensurate with the severity of the conditions.

The owner will coordinate and mobilize a qualified Contamination Assessment/Remediation (CAR) Contractor. Qualifications of such CAR Contractor will include, but not be limited to: experience and personnel to prepare contamination

assessment plans, conduct contamination assessments, prepare site assessment reports, remediation plans, implement remedial action plans, risk based corrective actions, storage tanks system removal, highway spill response as well as experience with infrastructure/construction activities within (potentially) contamination areas specific to transportation systems.

All the work performed by the CAR Contractor will be performed in compliance with all applicable local, state and federal regulations governing worker safety and environmental regulations. This is to include occupational exposure to contaminated soils, groundwater, wastes and atmosphere during the construction of all features included in the construction plans. In addition, the CAR Contractor will be staffed with Florida licensed technical professionals (geologists and engineers) who will be involved with the project and knowledgeable of the work activities conducted within the identified contaminated areas and who would sign and seal project reports as required for submittal to the appropriate environmental regulatory agencies.

The owner or designee Engineer will immediately notify the FDOT District VI Contamination Impact Coordinator (DCIC) at (305) 470-5228 after encountering the unidentified areas of contamination. Preliminary investigation by the CAR Contractor will determine the course of action necessary for site security and the steps necessary under applicable laws, rules, and regulations for additional assessment and/or remediation work to resolve the contamination issue.

Following completion of the project, the CAR Contractor will be required to provide copies of all reports submitted to regulatory agencies, waste material profiles, manifests and/or disposal receipts for the handling of all contaminated media including but not limited to ground water, waste water, soils, solid wastes, sludge, hazardous wastes, air monitoring records and sample results for all materials tested and analyzed to the owner and the FDOT DCIC.

We will be responsible for responding to all traffic incidents during the construction and management of the Project, including – but not limited to – contamination and hazardous materials release associated with traffic incidents, unauthorized dumping and/or similar incidents.

For groundwater monitoring wells found within the Project Right of Way, the MCM+FIGG Design-Build Team commits to adhere to Subarticle 110-10.1 of Section 110 (Clearing and Grubbing) in the FDOT Standard Specifications for Road and Bridge Construction – “Water Wells Required to be Plugged” and FDEP’s “Monitoring Well Design and Construction Guidance Manual”, 2008.

We will contact the owner before applying for a dewatering permit from any environmental regulatory agency to avoid potential contamination plume exacerbation and determine proper groundwater management associated with such sites.

We understand that the owner will be indemnified against any and all claims arising from improper handling storage, transportation or disposal of contaminated materials. We will also be solely and totally responsible at its own cost for completely cleaning up any contamination caused by its own

activities. This includes, but is not limited to spillage/leakage of contaminants from equipment and/or portable tanks used in constructing the project.

## **N. SIGNING AND PAVEMENT MARKING PLANS**

---

The MCM+FIGG Design-Build Team will prepare signing and pavement marking plans in accordance with FDOT standards and with the OWNER’s criteria. These plans will be included in the roadway plans set.

## **O. LIGHTING PLANS**

---

The MCM+FIGG Design-Build Team will provide lighting plans in accordance with the owner’s criteria.

## **P. LANDSCAPE PLANS**

---

All Landscape plans and design calculations will be prepared in accordance with the Governing Regulations, Policies and Procedures, and the submittal requirements and will be signed and sealed by a Florida-registered Landscape Architect. Landscape plans to be provided will include: an Existing Tree Inventory Plan, a Tree Relocation Plan, and a Landscape Plan.

Our Team commits to submit a Landscape Plan for review and approval in writing to the owner prior to any 90% design submittal. Our Team will allow 21 calendar days for review by the owner.

The Landscape Plan will provide sufficient detail to also be used at Public Workshops for the project. We will identify, document and provide solutions for all potential impacts to the existing landscaping due the proposed MCM+FIGG Design-Build Team’s design concept, including but not limited to landscape material and modifications to the layout of the existing Shared Use Paths in order to minimize the number of tree impacts proposed.

An Existing Tree Inventory Plan will accurately identify the location, species, size and condition of all existing trees within the project. The Existing Tree Inventory Plan will state the disposition of existing landscape material (i.e. Relocation, Removal, Remain or Replace) and provide justification. We will coordinate with the owner, as applicable, for all determinations (final decisions regarding disposition/treatment/actions for impacted landscape components).

A Tree Relocation Plan will provide a landscape layout for all relocated material identified in the Existing Tree Inventory Plan. All trees designated for relocation will be relocated within the project limits, as approved by the owner. Any landscape materials that are relocated will be done in accordance with FIU design and building standards and consistent with Landscape design guidelines.

Relocated trees will conform to warranties for Landscape material as detailed in the Standard Specifications. Any impacted trees that cannot be relocated will be replaced in kind. In kind is defined to provide new plant material of the same species which the diameter of the new trees adds to the diameter



of the existing tree to be replaced. (5 new 4” trees = 1 old 20” tree).

The Landscape Plan will follow the design intent of the Landscape Concept Plan provided and present the layout of new and remaining, existing landscape material. Any new trees and existing trees designated to remain that will be potentially impacted due to construction activity will be protected according to the current Design Standards. New trees will conform to warranties for Landscape material as detailed in the Standard Specifications. A unit-cost breakdown will accompany the Landscape Plan.

We will closely coordinate Landscape Plan with the owner and other relevant agencies. The final Landscape Plan will be submitted to the owner and other relevant agencies affected for review and approval prior to installation. We understand that any requirements imposed by the owner and other relevant agencies shall be binding on the firm.

## Q. SIGNALIZATION

### 1. General:

The MCM+FIGG Design-Build Team is responsible for the preparation of Signalization Plans in which signal equipment specified will conform to FDOT Standards, FDOT QPL/APL and Miami Dade County QPL. Close coordination will be maintained with the maintenance Agency, Miami Dade County Public Works and Waste Management Department, Traffic Signal & Sign Division, to always provide the compatible equipment and required upgrades.

We will be responsible for the preparation of design plans and providing necessary documentation for the procurement, relocation, and installation of the Signalization devices as well as overall system construction and integration. The construction plan sheets will be in accordance with owner requirements and will include, but are not limited to:

- ✓ Project Layout/Overview sheets outlining the locations of field elements
- ✓ Detail sheets on:
  - a. Wiring and connection details
  - b. Conduit, pull box, and vault installation

The MCM+FIGG Design-Build Team commits to ensure project compliance with the Regional ITS Architecture and Rule 940 as applicable. This includes, but is not limited to, the development or update of a concept of operations, the development or update of a system engineering master plan (SEMP), and requirement traceability verification (RTVM) as well as coordination of document review.

Our Team will be responsible for providing details on existing Signalization and Intelligent Transportation System equipment and reporting which devices will be removed, replaced, or impacted by project work. Additional tasks to be completed include:

- ✓ At the intersection of SW 8th Street and SW 109th Avenue, we will perform a detailed evaluation of existing equipment and conditions in order to provide the best possible upgrade to the existing Traffic Signal. The improvement to these intersections will include:

- a. Optimization of existing signal timings
- b. Level of service
- c. Safety enhancements

- ✓ As part of the improvements to the existing traffic signal, pedestrian poles, including push buttons and LED count-down pedestrian signals will be provided to improve the safety of pedestrian at this location. New Loops will be installed.
- ✓ During the design phase for this project, we will maintain the traffic signal at this intersection operational at all times, and will coordinate closely with the maintenance agency to provide any contingency or temporary signal plan if necessary.
- ✓ Our Team is also aware of the future Adaptive Signal Control System to be implemented by FDOT along the SW 8th Street corridor, including the intersection of SW 8th Street and SW 109th Avenue, and will keep in close coordination with FDOT’s team to ensure that any improvements we proposed to this intersection will be according to the new system requirements.

### 2. Design and Engineering Services:

The MCM+FIGG Design-Build Team will be responsible for all new Signalization Design and engineering services relating to the Project. The design of the new system will integrate with the existing devices. The design will include the necessary infrastructure and components to ensure proper connection of the new sub-systems. This will include but not be limited to all proposed sub-systems of this project as well as existing sub-systems that remain or are redeployed as the final project.

### 3. Construction and Integration Services:

The MCM+FIGG Design-Build Team will be responsible for all Signalization construction and integration services relating to the project.

### 4. Testing and Acceptance:

The MCM+FIGG Design-Build Team commits to furnish equipment that shall be subject to monitoring and testing to determine conformance with all applicable requirements. We will be responsible for the coordination and performance of material inspection and testing, field acceptance tests, and system acceptance tests. The times and dates of tests must be accepted in writing by the Owner’s Project Manager. We will conduct all tests in the presence of the Owner’s Project Manager or designated representative.

## 6.2 ACCELERATED BRIDGE CONSTRUCTION

FIU is at the international center of the latest breakthrough innovations and technologies in Accelerated Bridge Construction (ABC).

Following the tradition of excellence set by FIU, this new signature pedestrian bridge will showcase the latest advances in Accelerated Bridge Construction (ABC) as a model for education. FIU can highlight this bridge at the ABC Conference hosted at FIU.

This method of erection for your new bridge offers many benefits over conventional construction techniques over traffic.

- ✓ Quick construction schedule
- ✓ Increased safety for construction team and vehicular traffic because most activities will occur in the staging area, not over live traffic.
- ✓ Bridge is lifted in place in one night in one piece.

### STAGING AREA TO BUILD SUPERSTRUCTURE FOR ABC

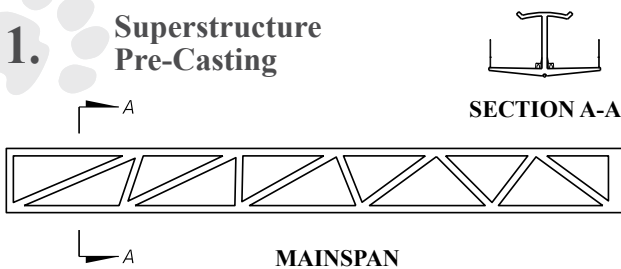
The design-build team is proposing to use the SW corner of SW 8th Street (Tamiami Trail) and SW 109 Ave. (University Drive).

We will remove temporary foundation after project completion and this area will become the Southern Plaza entrance to the bridge.



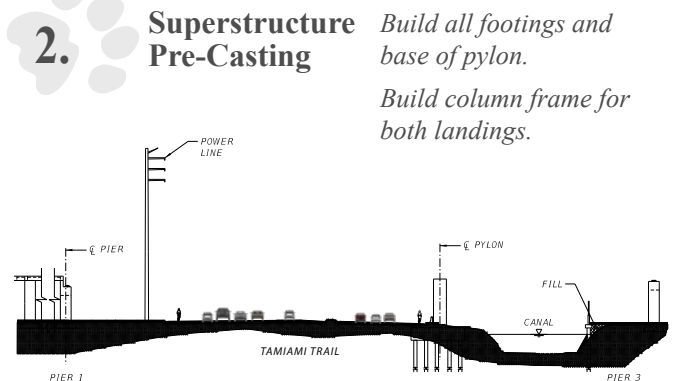
## STEP-BY-STEP FOR ACCELERATED BRIDGE CONSTRUCTION

### 1. Superstructure Pre-Casting



Cast main span superstructure including deck and canopy. Stress bottom slab transverse post-tensioning and longitudinal post-tensioning with straight tendons. Create outstanding durability..

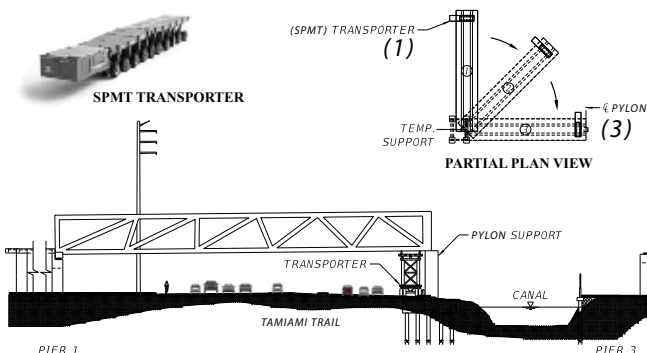
### 2. Superstructure Pre-Casting



Build all footings and base of pylon.  
Build column frame for both landings.

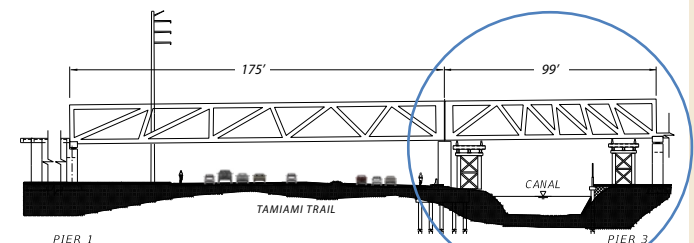
### 3. Position Main span

Rotate main span from the casting position (1) to the final position (3). Install bearing pads at pier 1 and remove temporary support. Secure truss at pylon support.



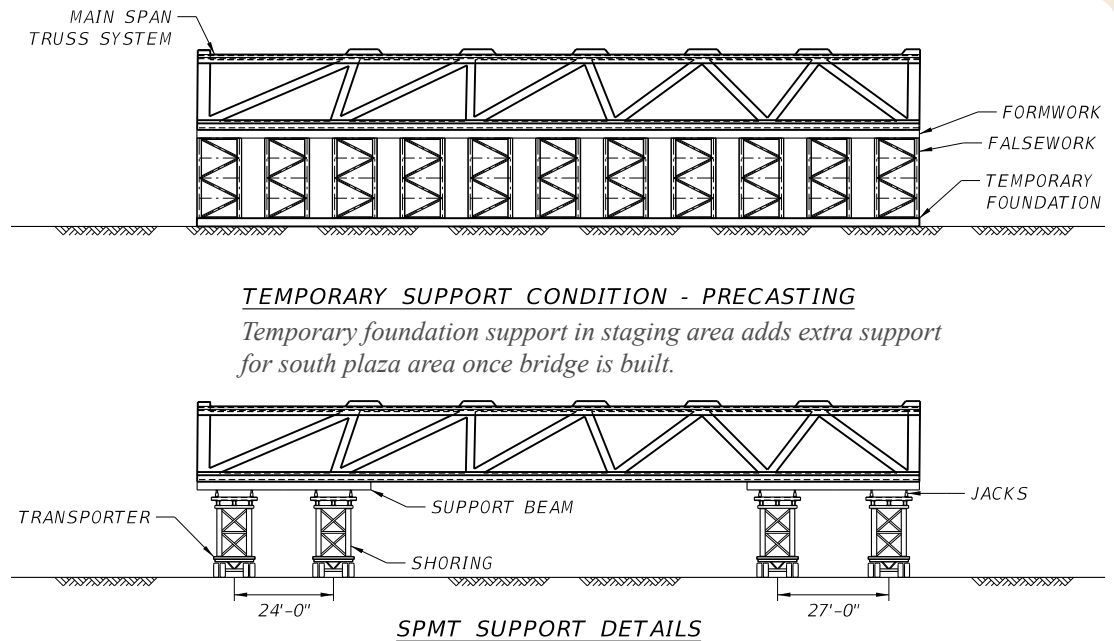
### 4. Casting Of Back Span

Erect temporary falsework on banks of canal. Install bearing pads at pier 3. Cast deck, truss and canopy. Construction of pylon and stays follows with superstructure fully secured as a construction platform.





## TEMPORARY SUPPORT SYSTEM & BRIDGE MOVEMENT SYSTEM



Self-Propelled Modular Transporter (SPMT) for ABC Construction.

### BRIDGE STAGING AREA (BSA)

The proposed Bridge Staging Area (BSA) will provide a **safe construction area** to prefabricate the main span truss system as a single unit for an entire span in a **controlled environment staging area**. The FIU community and traveling public will benefit from construction off site and quick overnight assembly of the bridge over the highway.

The conditions of the BSA will be carefully considered in the design to ensure the success of the temporary support system. A geotechnical analysis will be used in the design of the temporary footing and the travel path for the movement of the main span superstructure truss system.

### TEMPORARY SUPPORT STRUCTURE

The temporary support structure that will be used to cast the main span superstructure truss system will meet all the requirements of the AASHTO Design Guide for Bridge Temporary Works. We will monitor the temporary structure deflections to ensure that the permanent structure remains in proper condition during construction of the deck system, truss diagonal members, and canopy. The permanent structure will be monitored for vertical deflections, twist and lateral horizontal deflections during the lifting and moving of the superstructure system. The superstructure will be supported under the diaphragms and the nodal sections. The support system will be designed to ensure that local stresses are controlled in the various members of the superstructure truss system.

### BRIDGE MOVEMENT SYSTEM

We will use a Self-Propelled Modular Transporter (SPMT) as the primary construction equipment for the erection of the main span

superstructure truss system. The proposed system has been used in bridge projects across the country with great success.

Using SPMTs to install the superstructure truss system offers the following benefits:

- ✔ Shortest possible on-site construction time, improving work zone safety for vehicular traffic and construction workers.
- ✔ Allows for the building of the entire truss as a prefabricated system instead of a system comprised of many prefabricated parts.
- ✔ The elimination of issues related to overhead height restrictions associated with crane lifting near the power lines on the south side of the project.
- ✔ Improves safety for traffic by keeping normal traffic patterns, since it allows shorter lane closures at night.

We will submit a bridge movement plan that shows all the details related to the sequence, schedule and traffic control for the erection of the main span. This monitoring plan will include details on how the structure will be monitored during movement. The required coordination with the pertinent agencies that are affected, directly or indirectly, by the movement of the main span will be contacted by the Design-Build Team. All affected utilities in the travel path of the erection equipment will have a mitigation plan.

*In summary, ABC will be used in a remarkable way for this new signature bridge on FIU's campus. FIU's technology in ABC is an inspiration for this vision.*

## 6.3 NATURAL FREQUENCY DESIGN

One of the most important design aspects of this signature pedestrian bridge is the natural frequency design. The MCM+FIGG Design-Build Team understands the importance of meeting the natural frequency design criteria for this type of structure to ensure serviceability and a positive user experience. The interactions between pedestrian movements, bridge response, and perceived movement by users were considered in the determination of structure type and dimensional characteristics. This all concrete solution with a central truss and stays creates the rigidity and stiffness for an enjoyable walk and the best overall structural solution.

### SYNCHRONIZATION

Pedestrian bridges are very sensitive to dynamic bridge loading caused by moving pedestrians. A pedestrian bridge is susceptible to excessive vibration if its natural frequency is close to or coincides with the fundamental harmonics of the pedestrian walking frequencies. This phenomenon of “synchronization” can create excessive movements of the bridge causing a sensation of instability to the users. This design was customized to provide an excellent, comfortable user experience in all loading conditions.





## PROJECT DESIGN CRITERIA

---

### HORIZONTAL FREQUENCY

In the lateral direction, the fundamental frequency of the pedestrian bridge shall be greater than 1.3 hertz.

### VERTICAL FREQUENCY

The fundamental frequency in a vertical mode shall be greater than 3.0 hertz to avoid the first harmonic.

## CONTEXT-SENSITIVE SOLUTION

The proposed concrete superstructure with the rigid truss system provides the necessary vertical and lateral stiffness through specific design considerations related to the cross section of the reinvented I-beam shaped superstructure, the stay, the pylon, and the truss.

The proposed system has been designed to maximize the vertical stiffness of the structure while at the same time minimizing the effect of self-weight, creating a very efficient system. The inherent damping characteristics of the all concrete structure achieve comfort, serviceability and strength.





The **width of the canopy** was enlarged to increase stiffness and provide additional protection from sun and inclement weather for pedestrians, enhancing the user experience. The canopy serves a dual function both as a structural element and as a roof. **V A**

The **size of the stay pipes and spacing** were designed to provide additional stiffness. The structure meets strength design criteria without the stays; they are an additional structural feature provided to meet the natural frequency requirements. **V A**

The **pylon stiffness** was designed to provide significant benefit to the overall stiffness of the structure. **V A**

The **width of the bridge deck** provides more user space and increases stiffness. The full 30' width is provided as desired by FIU. **V H A**

The **central concrete truss** was uniquely designed for the web of the I-beam to reduce the mass of the structure. This creates openness and stiffness. **V A**

- V** This enhancement was specifically designed to satisfy the vertical frequency requirements
- H** This enhancement was specifically designed to satisfy the horizontal frequency requirements
- A** This enhancement provides additional aesthetic value and assists in the design of a signature bridge with a sleek and contemporary form



## 6. 4 ACHIEVING INVEST PLATINUM RATING FOR PROJECT DEVELOPMENT

*The MCM+FIGG Design-Build Team is committed to excellence in sustainability on this project, including a commitment to achieving a **Platinum** rating for the INVEST Project Development module.*

FHWA's INVEST (Infrastructure Voluntary Evaluation Sustainability Tool) is an online tool created to self-evaluate the sustainability of a project and aids in making the spectrum of sustainability possibilities apparent to participants of design, owners etc. at the beginning stages of project planning. This is a voluntary web-based program that provides assessment tools that can be applied to early project planning through construction phases of a project utilizing four modules that cover the entire transportation lifecycle: System Planning for States (SPS), System Planning for Regions (SPR), Project Development (PD), and Operations and Maintenance (OM).

The MCM+FIGG Design-Build Team will implement the Project Development (PD) module for this project. This module will produce sustainability evaluations for project-specific planning, design, and construction and will provide the bridge owner control to meet all of the criteria.

INVEST uses scorecards to provide the sustainability evaluation of the project. For the PD module, there are 33 criteria points which are organized into six fixed and one custom scorecard. FHWA recognizes that all projects are different and all criteria will simply not apply to every single project- this is why there are various scorecards. Different scorecards contain different combinations of the criteria points and the custom scorecard is provided for projects that don't fit into the six, previously defined scorecards.

The feedback from the scorecard is given as a numerical score. The score provides insight on the level of sustainability a project has based on the absolute scale of how many points are earned by the project. There are different benchmark values, or "achievement levels" defined by FHWA that agencies can use to assess their goals or their projects sustainability outcomes. Platinum is the highest attainable level.

***FIGG will reach the level of "Platinum" for this project, meaning that at least 60% of all possible sustainability points will be earned.***



Criteria	Description	Points to be Earned
PD-01	Economic Analyses	✓
PD-02	Lifecycle Cost Analyses	✓
PD-03	Context Sensitive Project Development	✓
PD-04	Highway and Traffic Safety	✓
PD-05	Educational Outreach	✓
PD-06	Tracking Environmental Commitments	✓
PD-07	Habitat Restoration	
PD-08	Stormwater Quality and Flow Control	✓
PD-09	Ecological Connectivity	✓
PD-10	Pedestrian Facilities	✓
PD-11	Bicycle Facilities	✓
PD-12	Transit and HOV Facilities	
PD-13	Freight Mobility	
PD-14	ITS for System Operations	✓
PD-15	Historic, Archaeological, and Cultural Preservation	✓
PD-16	Scenic, Natural, or Recreational Qualities	✓
PD-17	Energy Efficient	✓
PD-18	Site Vegetation, Maintenance and Irrigation	✓
PD-19	Reduce, Reuse and Repurpose Materials	✓
PD-20	Recycle Materials	✓
PD-21	Earthwork Balance	✓
PD-22	Long-life Pavement	
PD-23	Reduced Energy and Emissions in Pavement Materials	✓
PD-24	Permeable Pavement	✓
PD-25	Construction Environmental Training	✓
PD-26	Construction Equipment Emission Reduction	
PD-27	Construction Noise Mitigation	
PD-28	Construction Quality Control Plan	
PD-29	Construction Waste Management	
PD-30	Low Impact Development	
PD-31	Infrastructure Resiliency Planning and Design	
PD-32	Light Pollution	✓
PD-33	Noise Abatement	

## 6.5 ACHIEVING LEED SILVER RATING FOR NEIGHBORHOOD DEVELOPMENT

*The MCM+FIGG Design-Build Team is committed to excellence in sustainability on this project, including a commitment to achieving a Silver rating for the LEED Neighborhood Development module.*

LEED (Leadership in Energy and Environmental Design) is a third-party certification system that recognizes exemplary strategies and practices in green building. There are five project type categories which include: Building Design + Construction, Interior Design + Construction, Building Operations + Maintenance, Neighborhood Development, and Homes. The “triple bottom line” with all project categories in LEED building, is “benefiting people, planet and profit”, which allows for healthier cities, more interactive and connected communities, and increased building and structure value.

The MCM+FIGG Design-Build Team will implement “Neighborhood Development Plan” for the FIU Pedestrian Bridge. The project checklist scorecard contains such criteria as “Smart Location & Linkage”, “Neighborhood Pattern & Design”, “Green Infrastructure & Buildings”, “Innovation & Design Process”, and “Regional Priority Credits”. Coordinated with the outlined criteria, the focus will be on the Complete Streets rather than only the bridge structure itself. This will allow for the FIU Pedestrian Bridge to be a space that promotes connectivity of the campus and surrounding city, while inspiring bridge users with technology on a high-performing structure that is environmentally sustainable and economically smart.

*FIGG will reach the level of “Silver” for this project, providing an excellent level of sustainability.*

Description	Points to be Earned
Smart Location & Linkage	✓
Neighborhood Pattern & Design	✓
Green Infrastructure & Buildings	✓
Innovation & Design Process	✓
Regional Priority Credits	





# AN INNOVATIVE SIGNATURE PEDESTRIAN BRIDGE FOR FIU

## A BRIDGE WORTH WALKING



### The Vision

Every bridge has a story. It begins with a vision. A vision that reflects the beauty of the community's sense of place. A bridge tells the story of the technology of its time and respects the natural and built environment in a holistic design. The features of FIU's New Pedestrian Bridge are a tribute to these principles. The vision for the new bridge has been described with words like: Signature, Innovative, Contemporary, Iconic, Outstanding, Landmark, Event Venue, Linear Park, and a Place to Linger and Gather.

### The Design Approach

From this vision a theme came to life as a unifying connection between the new bridge, the FIU campus, and the Miami community – **A Bridge Worth Walking**. This design approach is inspired by the vision of FIU and this theme. Archetypal design principles of blending shapes, creating shadows, selecting textures, choosing pleasing colors, opening new vistas, using native materials, creating feature lighting and incorporating landscaping were combined to create a bridge that celebrates and is inspired by FIU, including its grand collection of palms, innovative research and technology, and educational excellence. The FIU values of intent, clarity, quality, innovation, safety, constructability, sustainable design and construction, universal design, and active design all work together to blend into the final one-of-a-kind, functional, and aesthetic language captured by the bridge.

## CONTENTS

### 1] Function

- Dimensions
- Pylon & Superstructure
- Concrete Superstructure

### 2] Form

- Aesthetic Features
- Aesthetic Lighting
- Pedestrian Experience
- Landscaping Design

### 3] Details

- Elevators
- Grand Staircase

### 4] Future

- Optional Bridge Enhancements
- Optional Artistic Seating

### Inspiration drawn from FIU

#### Natural Environment



Left to Right: Florida Panther, Grand Collection of Palms, Muhly Grass

#### Technology and Innovations



Left to Right: FIU Wall of Wind, FIU Origami Inspired Antennas, FIU Engineering Center

#### Educational Excellence



Left to Right: Paul L. Cejas School of Architecture Building, Wertheim Conservatory, Roary the Panther

Renderings of the new iconic pedestrian bridge – a vision that reflects the beauty of the community's sense of place. An attraction for a welcoming experience.



# AN INNOVATIVE SIGNATURE PEDESTRIAN BRIDGE FOR FIU

## DESIGN FEATURES

### GRAND STAIRCASE

The grand staircase at the Bridge Plaza at the bridge's south end is a feature element of the design that allows for a large and efficient movement of people as well as additional gathering space.

### BRIDGE SHAPE

The unique shape of the bridge allows for a slender deck of 2' at the center, saving approximately 8' over a typical structure depth. This brings the bridge closer to the land areas while meeting vertical clearance requirements, and creates shorter staircases and elevators. This results in a cost savings benefit for our design.

### STAYS AND PYLON

The tapering pylon reaches a height of approximately 109' with 81' above the bridge deck creating spectacular views for the users of the bridge and those driving beneath. The pylon height is in scale with the built environment with multi-story buildings and parking structures on each side of the bridge.

The stays and pylon provide the required structural design to meet the pedestrian loads for harmonic conditions of natural frequencies and create dramatic signature aesthetics that tie directly to the rhythm of the strut pattern.

### CONCRETE CANOPY

A sleek concrete canopy is an integral structural element of the design, providing stiffness and strength, while also providing beneficial shade and coverage for 53% of the walkway along the length of the bridge.

### BRIDGE WALKWAY

A full 30'-wide walkway is provided, 50% larger than the required minimum, allowing for more functional space on the structure.

### BRIDGE OVERLOOKS

Bridge overlooks are provided on the North side (450 SF) and South side (717 SF), for enhanced staircase connections and greater gathering space. The South overlook at FIU (opposite side of this image) has a cantilevered canopy, and allows for a direct future connection to Parking Garage 4 and escalators.

BRIDGE PLAZA & GRAND STAIRCASE (SOUTH)

### MISSILE PROTECTION

An artistic 8-ft missile protection fence was designed for the bridge to protect pedestrians and vehicular traffic below. The mesh characteristics will reduce some of the traffic noise from below and the large panel sizes reduce the number of vertical posts used for the railing system. The geometric pattern of the diagonal bracing members complements the truss structure for added aesthetic character.

### ELEVATORS & VESTIBULES

The custom-design elevators provide an elegant solution for alternative and ADA-compliant access to the bridge. The cabs have one transparent wall each, facing the FIU campus, which provide an additional feature and allow for views of FIU never seen before. A ride up in these elevators will set the tone of excellence for arrival onto this signature bridge.

BRIDGE PLAZA (NORTH)



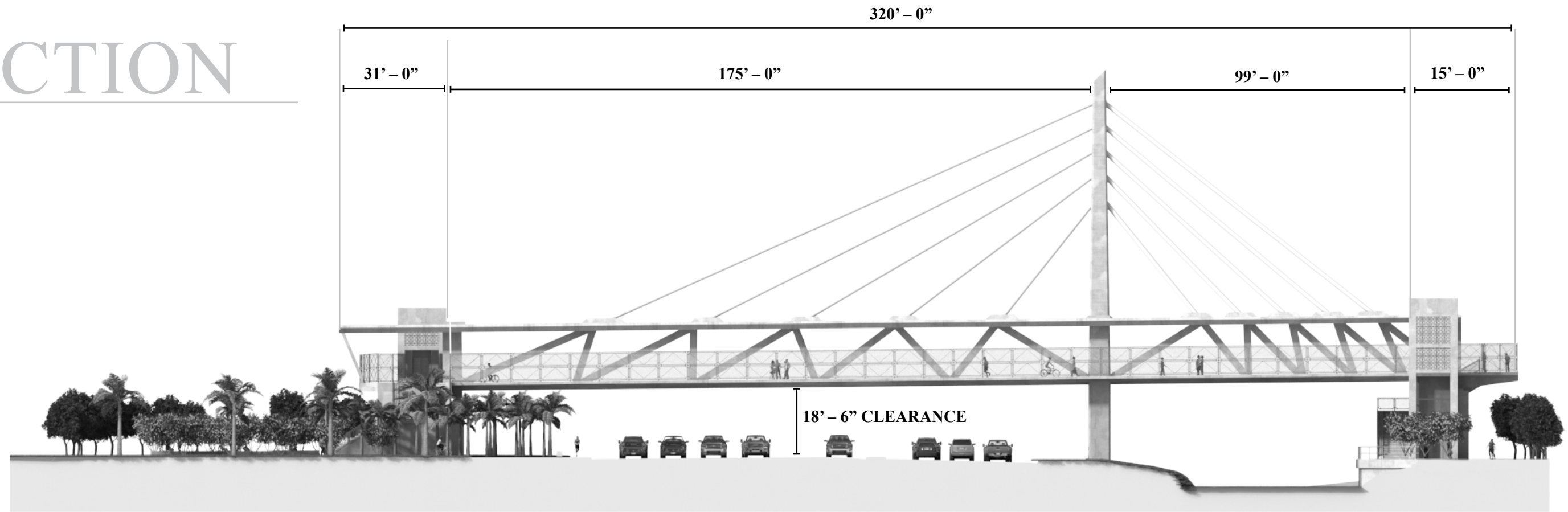
A BRIDGE WORTH WALKING



Rendering of Innovative Signature Pedestrian Bridge from the Canal Looking South to the Entrance of FIU Campus

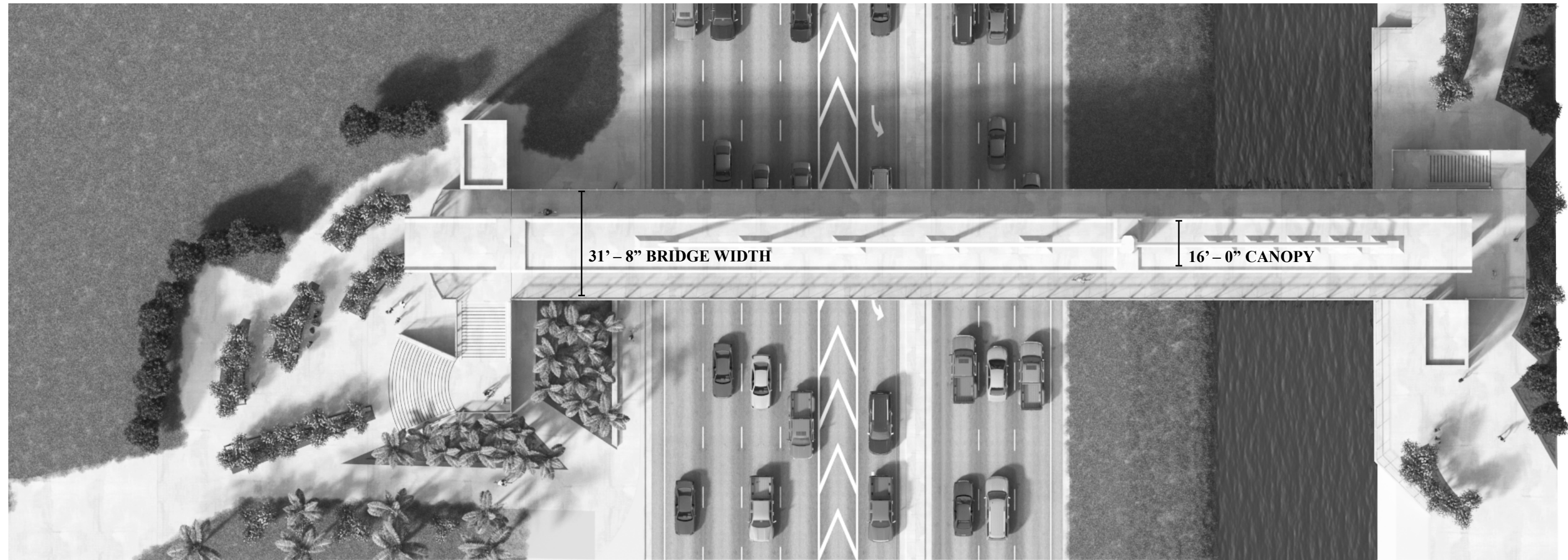


# FUNCTION



SOUTH PLAZA

NORTH PLAZA



FIU

TAMIAMI TRAIL

CANAL

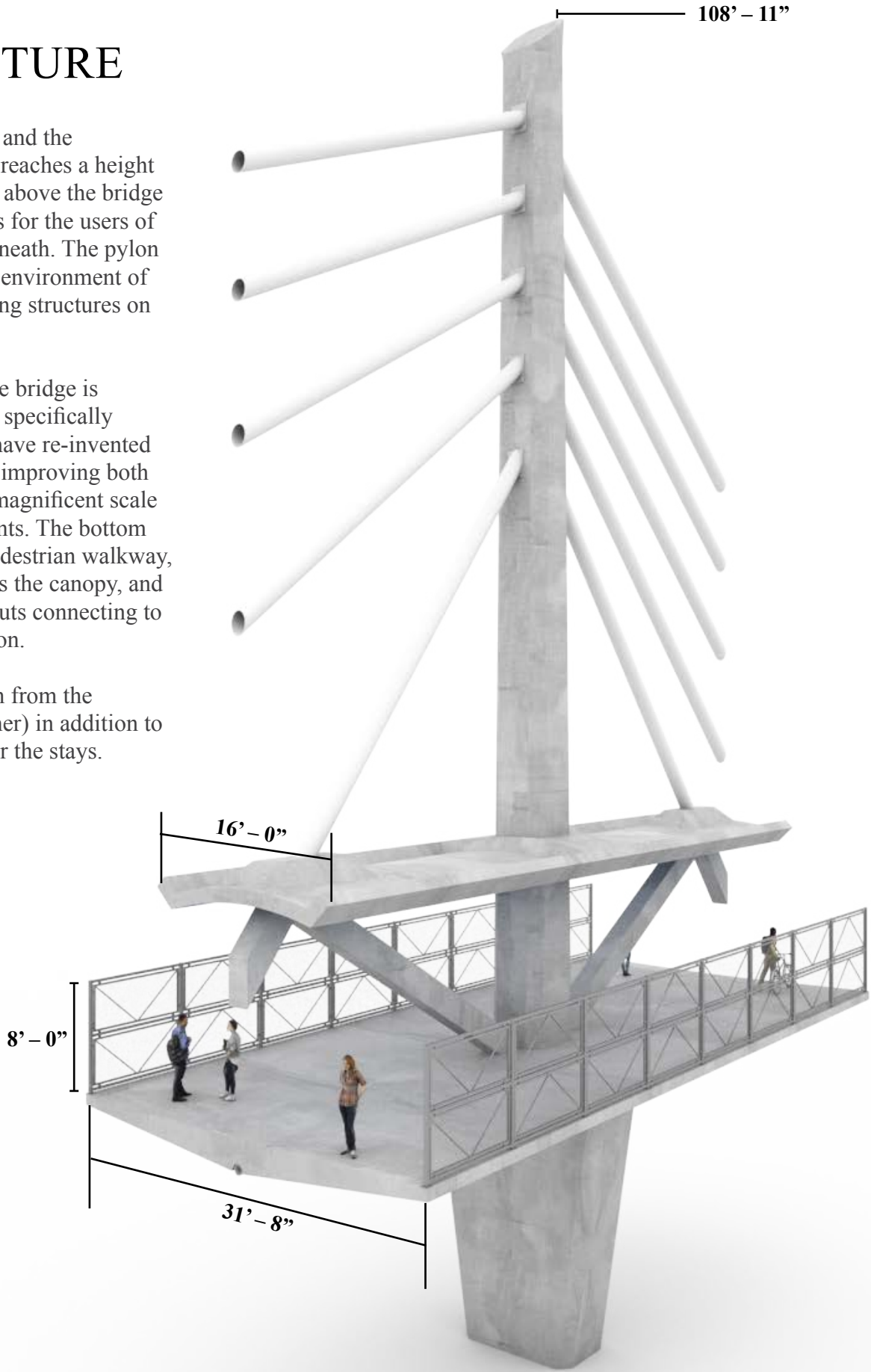


# PYLON & SUPERSTRUCTURE

As an iconic statement for FIU and the community, the tapering pylon reaches a height of approximately 109' with 81' above the bridge deck creating spectacular views for the users of the bridge and those driving beneath. The pylon height is in scale with the built environment of multi-story buildings and parking structures on each side of the bridge.

The superstructure shape for the bridge is innovative and one-of-a-kind – specifically designed for your project. We have re-invented the traditional I-beam concept, improving both its functionality and form at a magnificent scale and with repurposing its elements. The bottom concrete flange becomes the pedestrian walkway, the top concrete flange becomes the canopy, and the web becomes a series of struts connecting to stays and a single dramatic pylon.

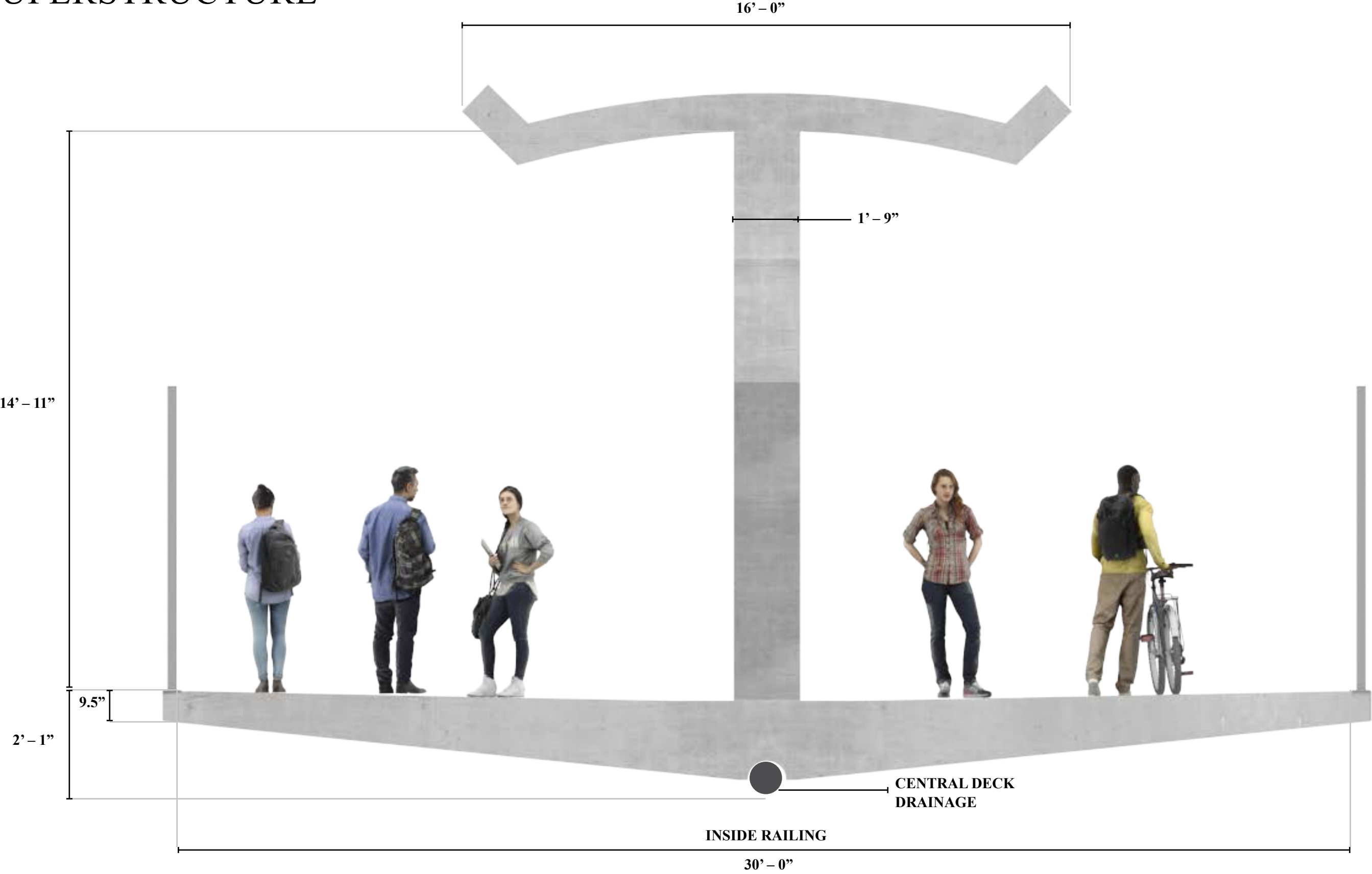
The canopy provides protection from the elements (sun, inclement weather) in addition to being the anchoring location for the stays.



5 Sets of stays in a fan arrangement



# CONCRETE SUPERSTRUCTURE





# FORM

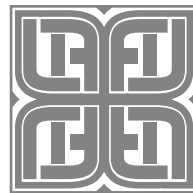
## AESTHETIC FEATURES

The bridge uniform concrete color will appear white with direct sunlight. Consistent use of common sourced materials creates singular color for the entire bridge.

The bridge canopy could be stained a sky blue to blend with the landscape of the sky in looking upward from the bridge walkway. This also provides a naturally clean space that bugs, insects, and birds avoid because the view the blue as being exposed to predators in the sky and will not nest in the canopy.

The large scale stainless steel “Banker wire” railing follows the FIU specification requirements of materials, height and mesh sizes. The enhancement to this is the use of the largest rectangular panels available. This results in fewer vertical support frame members and creates a contemporary open look. To support the mesh of larger frames a dual wire support is used in a rib of angles reflecting the geometric angles of the central concrete truss. This wiring is positioned on the thin side for a softer view of the angle pattern, seeming more like a hint of angled movement along the edges of the walkway.

The bridge walking surface could continue the garden feel of the plaza area using an exposed aggregate surface with pathway banding of the custom designed “FIU” flower pattern along the boundaries of the bridge walkway in front of the 8 foot mesh protective railing. This is optional for discussion of preferences with FIU.



The canopy ceiling could incorporate solar ceiling fans. The solar energy source would be on top of the canopy for direct sunlight. Then the stainless steel fan blades, specifically designed to move 40% more air through an area, are below the canopy ceiling. A pathway full of cool breezes offers an enjoyable and inviting space to pause and gather.







Rendering of Innovative Signature Pedestrian Bridge Facing East Along SW 8th Street. FIU Campus is South.





Rendering of Innovative Signature Pedestrian Bridge Looking Northwest



# AESTHETIC LIGHTING

## PYLON TOWER LIGHTING

Create an easily recognizable beacon for Florida International University and the City of Sweetwater through the use of dynamic lighting effects created by flood lighting the tower with RGBW (or A) LED fixtures at the top of the solar protection canopy. This lighting effect, in coordination with the cable stay lighting, will provide an energetic play of light for pedestrians enjoying the bridge and will be an identifier for motorists on approaching streets and nearby highways.

## PIER FLOODLIGHT AT THE PYLON

In addition to upward directed light above the bridge deck, it is also recommended to illuminate the faces of the pier below. This light will provide some visual interest as well as anchoring the overall tower element to grade. The affect could be white light or RGBW (or A) to match the pylon tower above the road deck.

## UNDER CANOPY LIGHTING

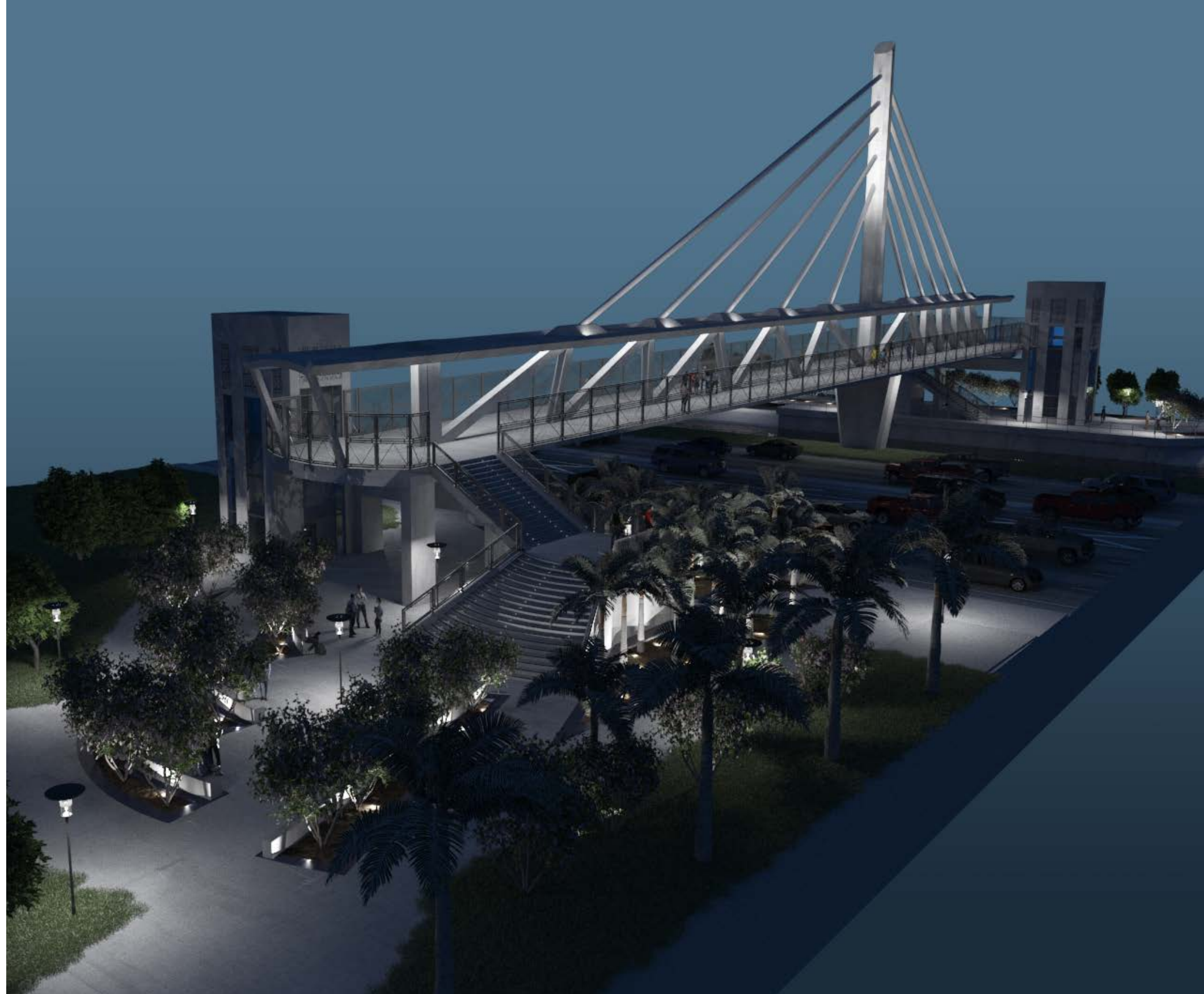
The lighting of the bridge deck for the comfort and safety of pedestrians uses white light LED fixtures continuously mounted in a concealed pocket within the shade canopy. This offers the opportunity for consistent comfortable light levels for transitory user as well as those who may wish to linger in a communal environment. Additionally, the fixtures will bring to light the sculptural structure adding a contrasting visual identity for those viewing the bridge from afar.

## BUS SHELTER LIGHTING

In order to alleviate the concerns of travelers awaiting their ride, the lighting in the bus shelter will seek to provide a uniform level of brightness that provides comfort, good visibility and aids in the riders sense of safety and security. Continuous runs of white LED lighting will provide comfortable illumination with characteristic features that emulate the pedestrian lighting on the bridge.

## PEDESTRIAN LIGHTING

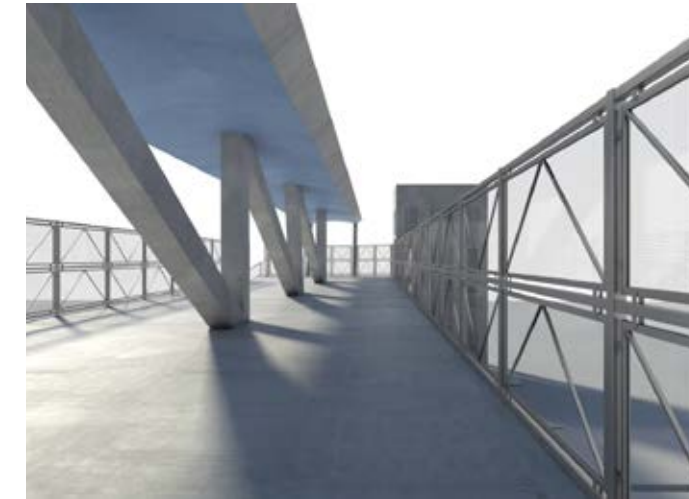
In order to provide some complimentary, human scaled lighting for pedestrians, decorative LED post top mounted fixtures will be applied to identify paths and walkways for those on foot or bike. The fixtures would match those signature elements identified for both the University and the City of Sweetwater, and meet all of the illuminance requirements as set forth by both entities. Additionally, selective landscape on the University property will be accented from ground mounted LED uplights, adding to the visual appeal to those ambling by.



## NORTH AND SOUTH PLAZA LIGHTING

White light LED fixtures will seek to visually anchor the bridge at the north and south ends by accenting the structure associated with the vertical transportation needs of the bridge. Lighting will be integrated into the stairs to provide a means to safely traverse the path and offer a lively pattern of light reminiscent of an airport runway approach, evocative of the University's beginnings. Palms and flowering trees will be uplighted and the University's signature pedestrian post top light will provide visual interest and add to the foot-travelers perceptions of safety and security.





*Grand walkway space for the signature pedestrian bridge. Large enough to accommodate special events and gatherings.*

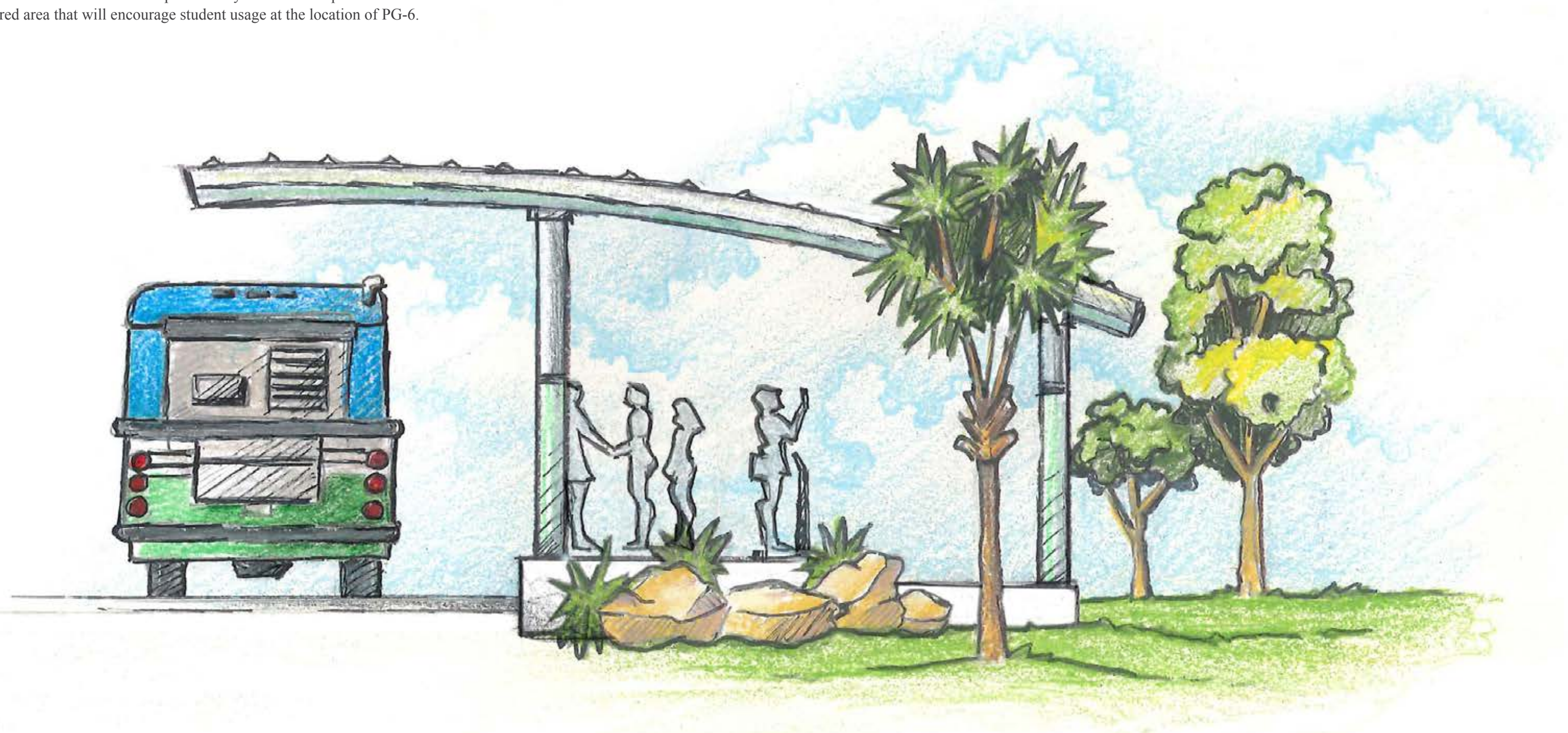
Rendering View from Pedestrian's Perspective Near the Pylon with 30' of Open Walkway



# ADVANCED INTERMODODAL STATION (AIMS) PLATFORM

The canopy of the new AIMS platform will complement the canopy of the bridge and includes a complementary linear lighting design. This will integrate the bus station as a part of the full campus improvement project that includes the signature bridge and streetscaping.

The new AIMS platform will enhance accessibility to the bridge location via the Miami-Dade Transit express bus system and will provide a new covered area that will encourage student usage at the location of PG-6.





# DETAILS

Elegant, custom-designed elevators with front and rear entrances and large and spacious commercial elevator cabs will provide adequate space for bicycles and the movement of large cargo to the bridge for events.

The cabs have one transparent wall each, facing the FIU campus, which provide an additional safety feature and allow for views of FIU never seen before.

The elevator structure has several transparent walls around the elevator shaft and attached vestibule areas. A ride up in these elevators will set the tone of excellence for arrival onto this signature bridge.



*A banding option that we have designed called the FIU flower could be used in parts of the elevator tower. This can be decided by FIU.*





# PEDESTRIAN EXPERIENCE

The grand staircase is an iconic feature of the bridge that is breathtaking, inviting, and provides a wide amount of space to accommodate large amounts of people moving through going to and from the bridge.

Claw-shaped planters and integrated benches were inspired by the Florida Panther. These resting places provide sculptural locations for the community to linger, gather, and a place to pause (paws).

The custom bike-tire channel integrated into the stairs encourages use of the bridge by cyclists. The elevator is also custom-design to accommodate bicycles.

The spacious plaza provides a retreat to hang out, meet up with others, or enjoy one of the many events that will take place there.





# THE GRAND STAIRCASE ON THE SOUTH PLAZA TO THE BRIDGE

The expansive grand staircase begins at a width of 15 feet at the top and flares to a width of 30 feet at the bottom. Bicycle tracks line each side of the staircase for ease in transporting a bicycle to and from the bridge.

The same open rail stainless steel mesh follows the lines of the stairs to the plaza level.

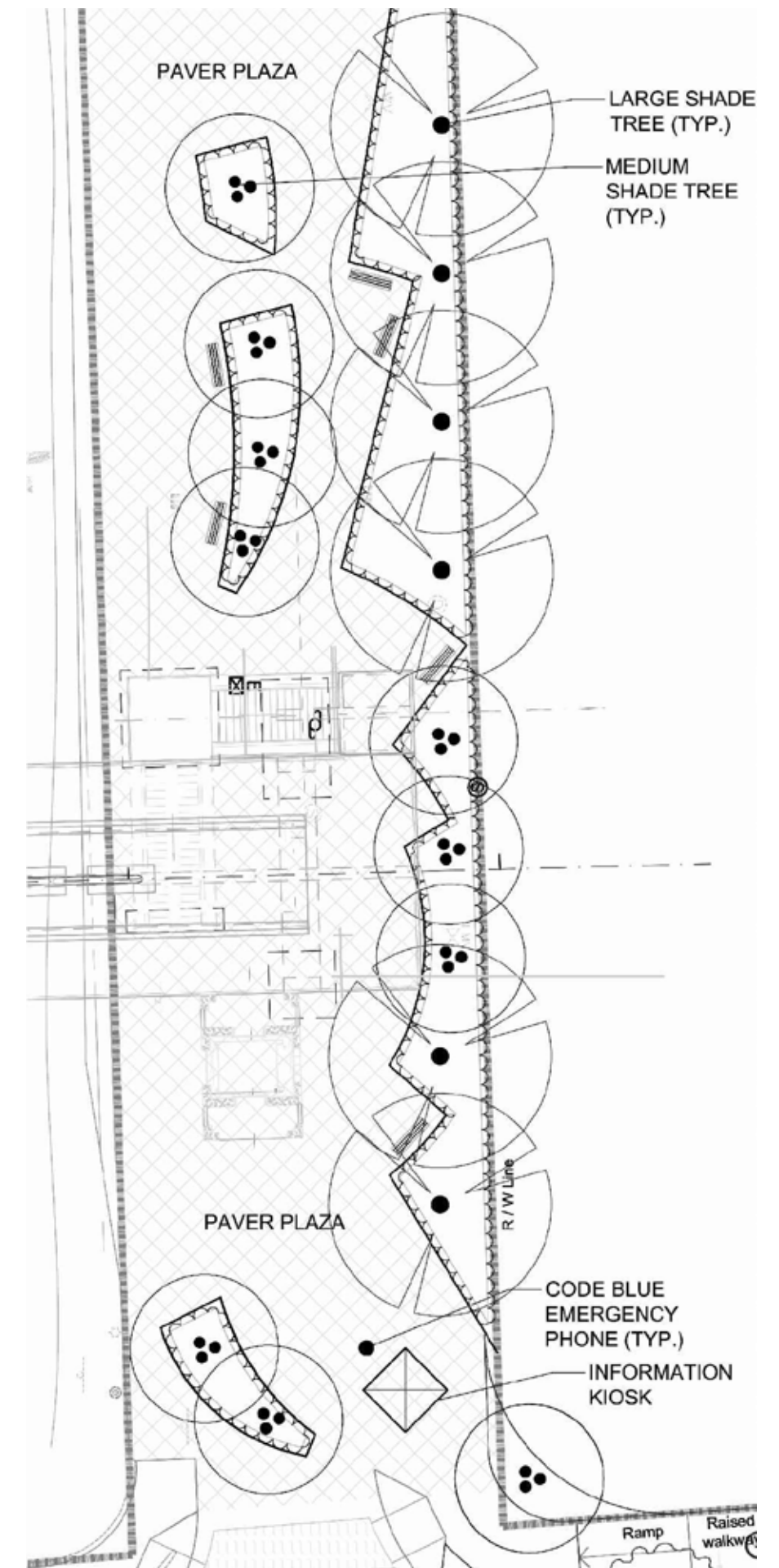
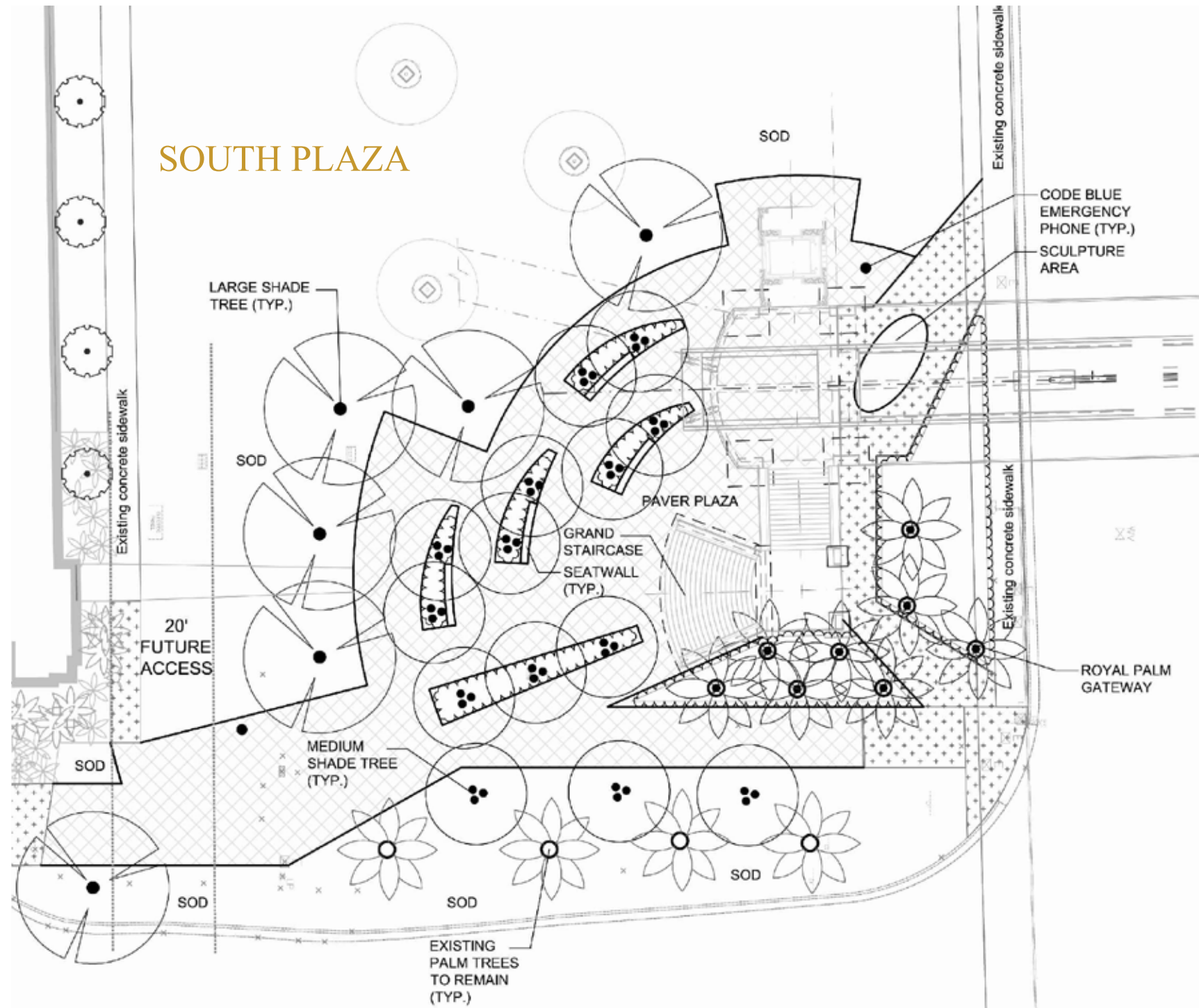


*Bicycle Track  
on Each Side  
of Staircase*



# CREATING COMMUNITY CONNECTIVITY

*Landscape Design Inspired by South Florida's Beauty*



The art piece ultimately becomes the plaza itself. The concept would be that the new key stone walls at the stairwell reflect the historic image of the university. The claw marks talk about the evolution from historical aspects of the university to the future and the oval shaped pedestal or planter would be a recipient site for a sculpture of a globe. This would signify the impact of university on the international community. The grand staircase is not only a functional architectural element in the plaza, but also takes a sculptural shape through the use of two wall components, distinct in shape, color and material. These wall components are visible from the campus as well as from passing motorists on the street. The presence of a crape myrtle bosque provides sun /shade and is a key element to the experience of the plaza. Therefore the plaza itself becomes the sculpture itself.

The north plaza has a unique north edge that reflects the gull wing patterns from the brothers to the rescue plaza.

A BRIDGE WORTH WALKING

**NORTH PLAZA**

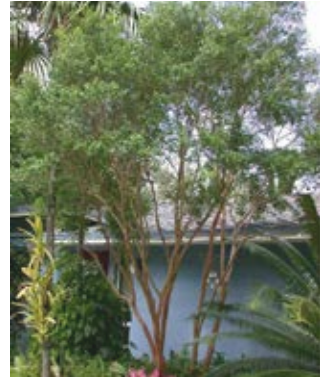


# LANDSCAPE DESIGN INSPIRED BY SOUTH FLORIDA'S BEAUTY

## TREES



*Bald Cypress*



*Simpsons Stopper*



*Crape Myrtle 'Nachez'*



*Gumbo Limbo*



*Live Oak*



*Pigeon Plum*

## PALMS



*Royal Palm*



*Thatch Palm*



*Cabbage Palm*



*Solitaire Palm*

## SHRUBS



*Gamma Grass*



*Green Island Ficus*



*Stokes Dwarf Holly*



*Dwarf Firebush*



*Catena Chairs*



*Paver Plaza with Concrete Banding*



*Bike Racks*



*Seatwalls with Pavers & Concrete Banding*



*Tables*



*Trash Receptacles*



*Benches*



*Pavers with Concrete Banding*

## *Modern Accents in the Landscape*

The Landscaping Palette of Sustainable Features





Rendering of Innovative Signature Pedestrian Bridge Looking Northeast



# FUTURE

The new bridge and plazas offer numerous future opportunities to enhance the space as a place to gather and linger. The following ideas could be included as future options.



*Optional solar-powered fans mounted to canopy to increase air circulation.*



*Mounts could be installed into the struts at the deck level, where students could hook-up their own **hammocks** and enjoy the bridge and the fresh Miami air near the canal.*



*Coffee and Vendor Carts could be set up in either the plazas or on the bridge deck as an amenity and convenience for students gathered at the bridge or those using the bridge as they travel to and from class.*



*Optional **table and benches** mounted at strut location*

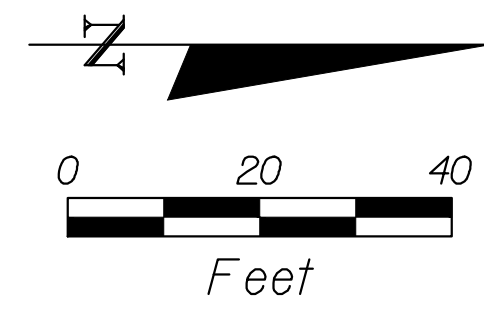




*Unique panther-inspired sculptural benches could be incorporated at the bridge level. These benches could be created with input from art students at FIU.*







GREEN LIBRARY  
05

LAKE

LAKE OVERLOOK  
BOARDWALK

POND

LAKE - LIBRARY PEDESTRIAN LINK

OWA EHAN  
06

BUILDING  
ENTRANCE

FOR CONTINUATION REFER TO SHEET LP-03

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY: **MCM+FIGG** **FIU** FLORIDA INTERNATIONAL UNIVERSITY  
 CHECKED BY: **DESIGN-BUILD TEAM**  
 DESIGNED BY: ROAD NO. COUNTY PROJECT ID  
 CHECKED BY: MIAMI-DADE BT-904

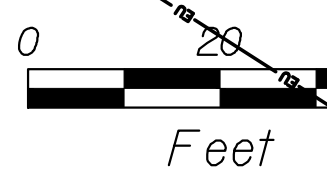
SHEET TITLE: **LANDSCAPE PLAN**  
 PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**  
 SHEET NO.: **LP-01**







PLAZA AT CAMPUS PEDESTRIAN ACCESS  
SW 10TH STREET (NORTH SIDE) / PG-4



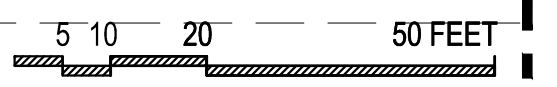
ACADEMIC HEALTH  
CENTER 4  
42

S.W. 10TH STREET

CAMPUS PEDESTRIAN ACCESS -  
SW 109TH AVENUE / PG-4

S.W. 109TH AVE

MARKET STATION  
PG-5



FOR CONTINUATION REFER TO SHEET LP-05

REVISIONS

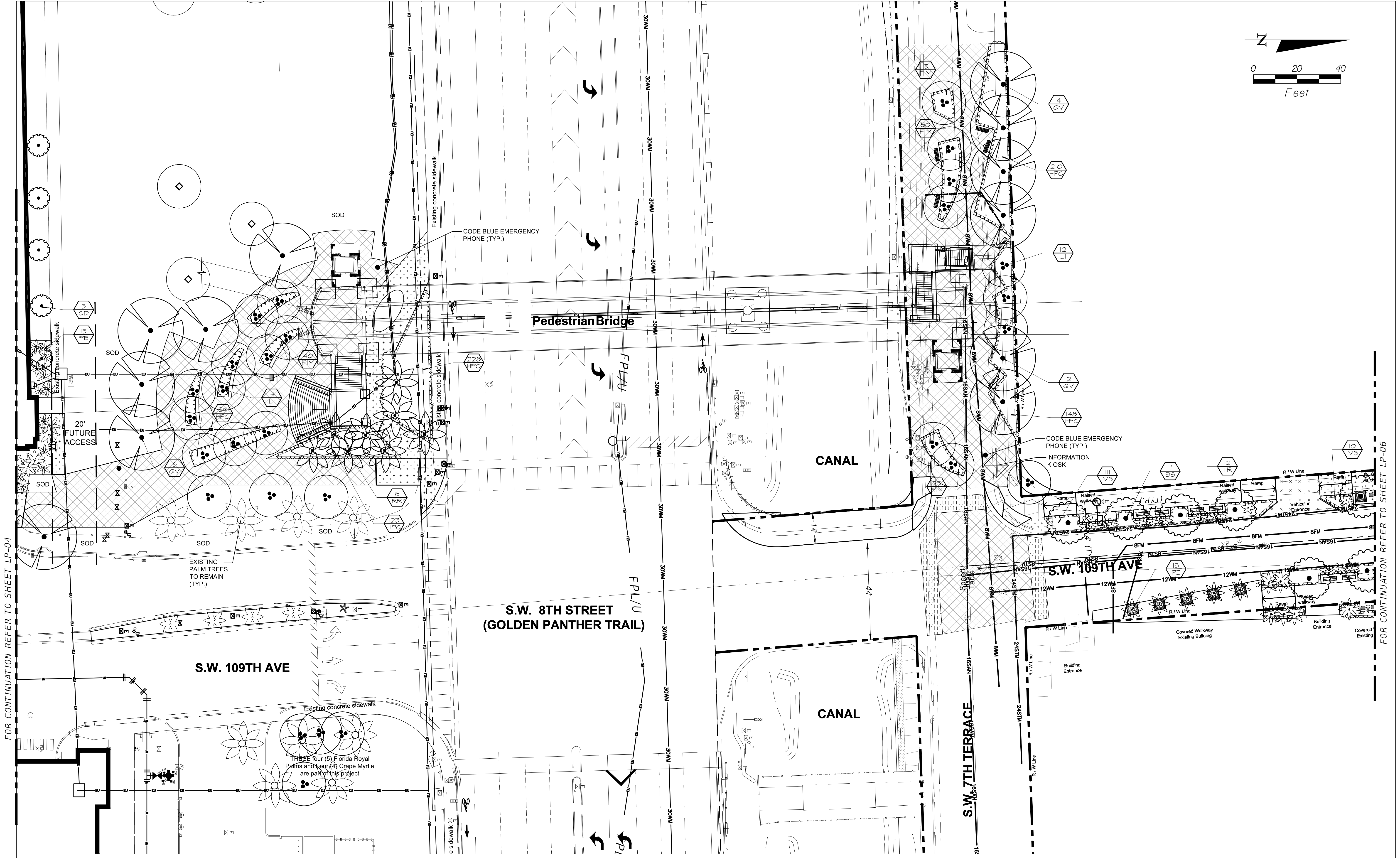
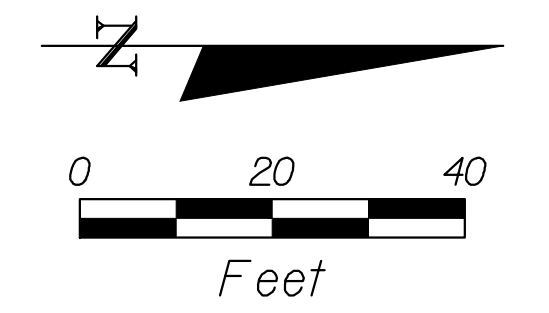
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY:			
CHECKED BY:	DESIGN-BUILD TEAM		
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:	MIAMI - DADE		BT-904

SHEET TITLE:	LANDSCAPE PLAN	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	LP-03	





FOR CONTINUATION REFER TO SHEET LP-04

FOR CONTINUATION REFER TO SHEET LP-06

**REVISIONS**

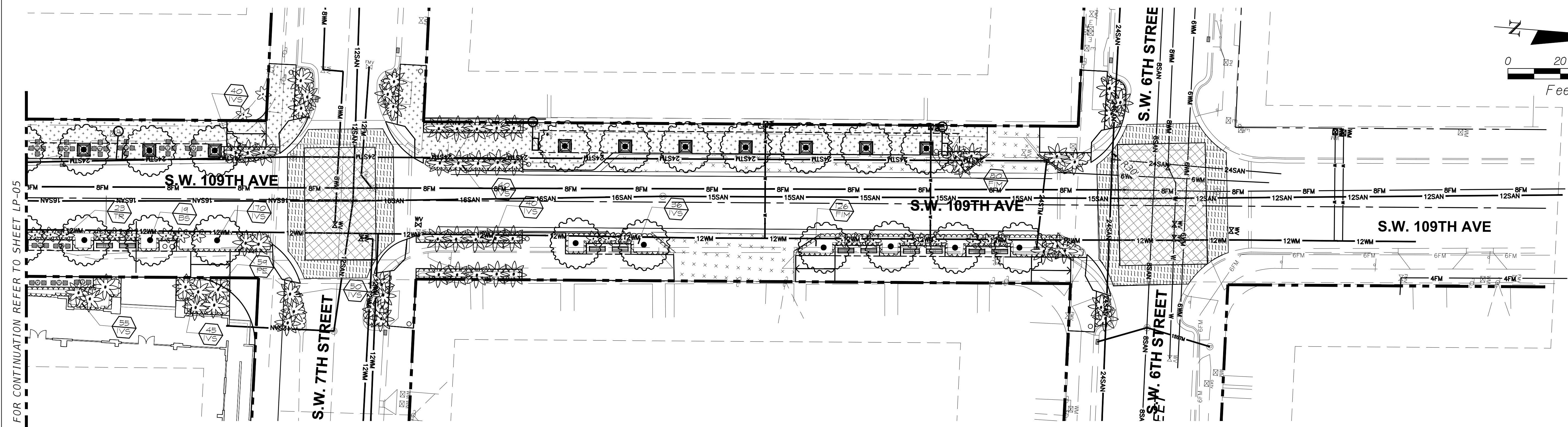
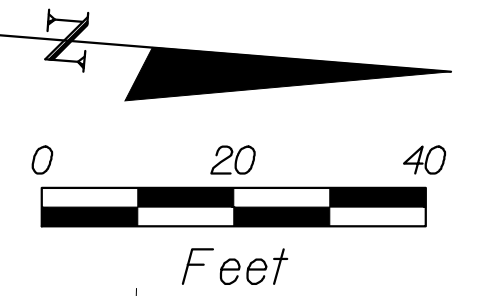
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY: **MCM+FIGG** **FIU** FLORIDA INTERNATIONAL UNIVERSITY  
 CHECKED BY: **DESIGN-BUILD TEAM**  
 DESIGNED BY: ROAD NO. COUNTY PROJECT ID  
 CHECKED BY: MIAMI-DADE BT-904

SHEET TITLE: **LANDSCAPE PLAN**  
 PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**  
 SHEET NO.: **LP-04**





FOR CONTINUATION REFER TO SHEET LP-05

**BASE\_BID\_PLANT\_SCHEDULE**

TREES							
CODE	QTY	BOTANICAL/COMMON NAME	CONT. SIZE	DIMENSIONS	NATIVE	WATER USE	REMARKS
BS	26	Bursera simaruba / Gumbo Limbo	B#B	3" cal., 12' ht. x 4' spr.	Yes	Low	5' c.t.
QV	13	Quercus virginiana / Southern Live Oak	B#B	4" cal., 18' ht. x 6' spr.	Yes	Low	5' c.t.
LI	22	Lagerstromia Indica 'Natchez' / Crape Myrtle	B#B	3" cal., 12' ht. x 4' spr.	No	Low	5' c.t.
PE	72	Ptychosperma elegans/ Solitaire Palm	B#B	10' g.w.	No	Mod.	
RR	8	Roystonea regia/ Royal Palm	B#B	15' g.w.	Yes	Mod.	
TR	35	Thrinax radiata/ Thatch Palm	B#B	8'-10' o.a.h.	Yes	Mod.	
SHRUB AREAS							
CODE	QTY	BOTANICAL/COMMON NAME	CONT. SIZE	DIMENSIONS	NATIVE	WATER USE	REMARKS
FIM	361	Ficus microcarpa/Green Island/ Green Island Ficus	3 gal@ 24" oc	10" ht. x 10" spr.	No	Low	
HPC	748	Hamelia patens 'Compacta' / Dwarf Firebush	3 gal@ 24" oc	15" ht. x 15" spr.	Yes	Low	
IVS	597	Ilex vomitona 'Stokes Dwarf' / Dwarf Yaupon Holly	3 gal@ 24" oc	10" ht. x 10" spr.	Yes	Low	
GROUND COVERS / MISCELLANEOUS							
CODE	QTY	BOTANICAL/COMMON	CONT. SIZE	DIMENSIONS	NATIVE	REMARKS	
Soil	TBD cf	Rootzone soil mix and topsoil		Cu. Ft.		Refer to Specifications	
Mulch	TBD sf	Mulch Melaleuca Shredded / Shredded Melaleuca Mulch		SF		3" Layer	
Sod	TBD sf	St Augustinegrass 'Floritam'	Sod	SF		Sod Panels	
Silva Cell	TBD cf	Silva Cell or Structural Soil		Cu. Ft.		Refer to Specifications	

**ALTI\_PLANT\_SCHEDULE**

TREES							
CODE	QTY	BOTANICAL/COMMON NAME	CONT. SIZE	DIMENSIONS	NATIVE	WATER USE	REMARKS
BS	8	Bursera simaruba / Gumbo Limbo	B#B	3" cal., 12' ht. x 4' spr.	Yes	Low	5' c.t.
CD	43	Coccoloba diversifolia / Pigeon Plum	B#B	12' ht. x 5' spr.	Yes	Low	5' c.t.
MF	13	Myrcianthus fragrans / Simpson Stopper	B#B	10' ht. x 3' spr.	Yes	Low	5' c.t.
QV	21	Quercus virginiana / Southern Live Oak	B#B	4" cal., 18' ht. x 6' spr.	Yes	Low	5' c.t.
LI	3	Lagerstromia Indica 'Natchez' / Crape Myrtle	B#B	3" cal., 12' ht. x 4' spr.	No	Low	5' c.t.
PE	45	Ptychosperma elegans/ Solitaire Palm	B#B	10' g.w.	No	Mod.	
PE2	26	Ptychosperma elegans/ Solitaire Palm	B#B	10' g.w., double	No	Mod.	
PD	3	Phenix dactylifera/ Medjool Date Palm	B#B	12' g.w.	No	Mod.	
RR	4	Roystonea regia/ Royal Palm	B#B	15' g.w.	Yes	Mod.	
SP	18	Sabal palmetto/ Cabbage Palm	B#B	10' g.w.	Yes	Mod.	
TD	21	Taxodium distichum / Bald Cypress	B#B	3" cal., 12' ht. x 4' spr.	Yes	Low	5' c.t.
TR	56	Thrinax radiata/ Thatch Palm	B#B	8'-10' o.a.h.	Yes	Mod.	
TR3	4	Thrinax radiata/ Thatch Palm	B#B	8'-10' o.a.h. triple	Yes	Mod.	
SHRUB AREAS							
CODE	QTY	BOTANICAL/COMMON NAME	CONT. SIZE	DIMENSIONS	NATIVE	WATER USE	REMARKS
FIM	1752	Ficus microcarpa/Green Island/ Green Island Ficus	3 gal@ 24" oc	10" ht. x 10" spr.	No	Low	
HPC	957	Hamelia patens 'Compacta' / Dwarf Firebush	3 gal@ 24" oc	15" ht. x 15" spr.	Yes	Low	
IVS	358	Ilex vomitona 'Stokes Dwarf' / Dwarf Yaupon Holly	3 gal@ 24" oc	10" ht. x 10" spr.	Yes	Low	
TRD	351	Tripsicum dactyloides / Gamma Grass	3 gal@ 24" oc	10" ht. x 10" spr.	Yes	Low	
GROUND COVERS / MISCELLANEOUS							
CODE	QTY	BOTANICAL/COMMON	CONT. SIZE	DIMENSIONS	NATIVE	REMARKS	
Soil	TBD cf	Rootzone soil mix and topsoil		Cu. Ft.		Refer to Specifications	
Mulch	TBD sf	Mulch Melaleuca Shredded / Shredded Melaleuca Mulch		SF		3" Layer	
Sod	TBD sf	St Augustinegrass 'Floritam'	Sod	SF		Sod Panels	
Silva Cell	TBD cf	Silva Cell or Structural Soil		Cu. Ft.		Refer to Specifications	

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY: **MCM+FIGG**  
 CHECKED BY: **FIU**  
 DESIGNED BY: **FLORIDA INTERNATIONAL UNIVERSITY**  
 CHECKED BY: **MIAMI - DADE**

ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT-904

SHEET TITLE: **LANDSCAPE PLAN**

PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

SHEET NO.: **LP-05**





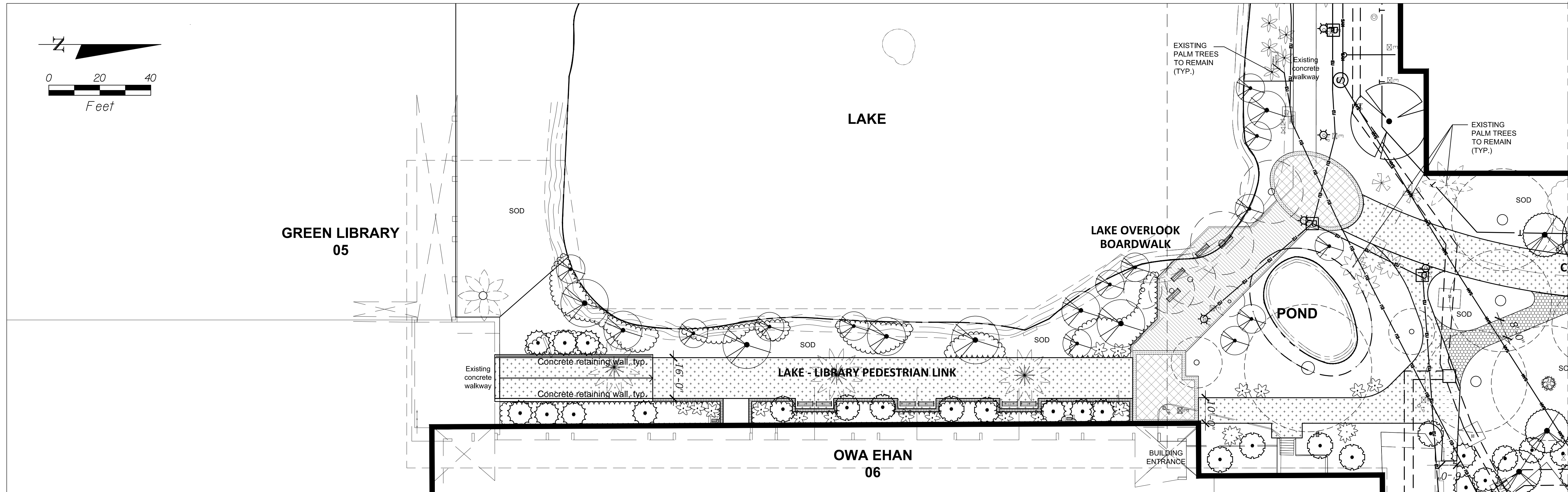


# HARDSCAPE LEGEND - FIU

## PAVEMENT

	**Regular gray concrete / 4" thick with tooled scoring (Pedestrian circulation) Finish: Medium broom finish. Refer to Engineering Specifications.		Interlocking concrete pavers with 18" Concrete banding. Size: 12"x12" (square or approved equal). Color: Standard - To be determined by Owner. Installation: As per manufacturer's specifications.		Keystone pavers Shape: Regular (squares and/or rectangle stone pavers) Size: Variable in size (minimum size 18"x18").
	**Regular gray concrete / 7"-8" thick (Vehicular and pedestrian circulation) Finish: Medium broom finish. Refer to Engineering Specifications.		**Regular gray concrete / 18" wide perimeter concrete pavement bands with tooled scoring (saw cut will not be acceptable)		<b>Lake Overlook Boardwalk</b> Structure of Architectural Grade Finished foundations supporting vertical and horizontal Framing; Galvanized Steel Anchors and Connectors; Integrated use of Recycled Materials
	Existing concrete walkway (protect from damage).		Concrete Pavement Pathway, 8 foot wide, with Required Root Bridging to protect existing mature trees. Supervision of installation of Root Bridging shall be performed by a Certified Arborist.		Keystone veneer and cap seating wall, typ. (2' wide keystone cap)
<b>** NOTE: For concrete pavement structure and specifications and design criteria, refer to Eng. drawings.</b>					Concrete retaining / seating wall, typ. (18"-24" wide seating concrete cap)

FOR CONTINUATION REFER TO SHEET LH-03



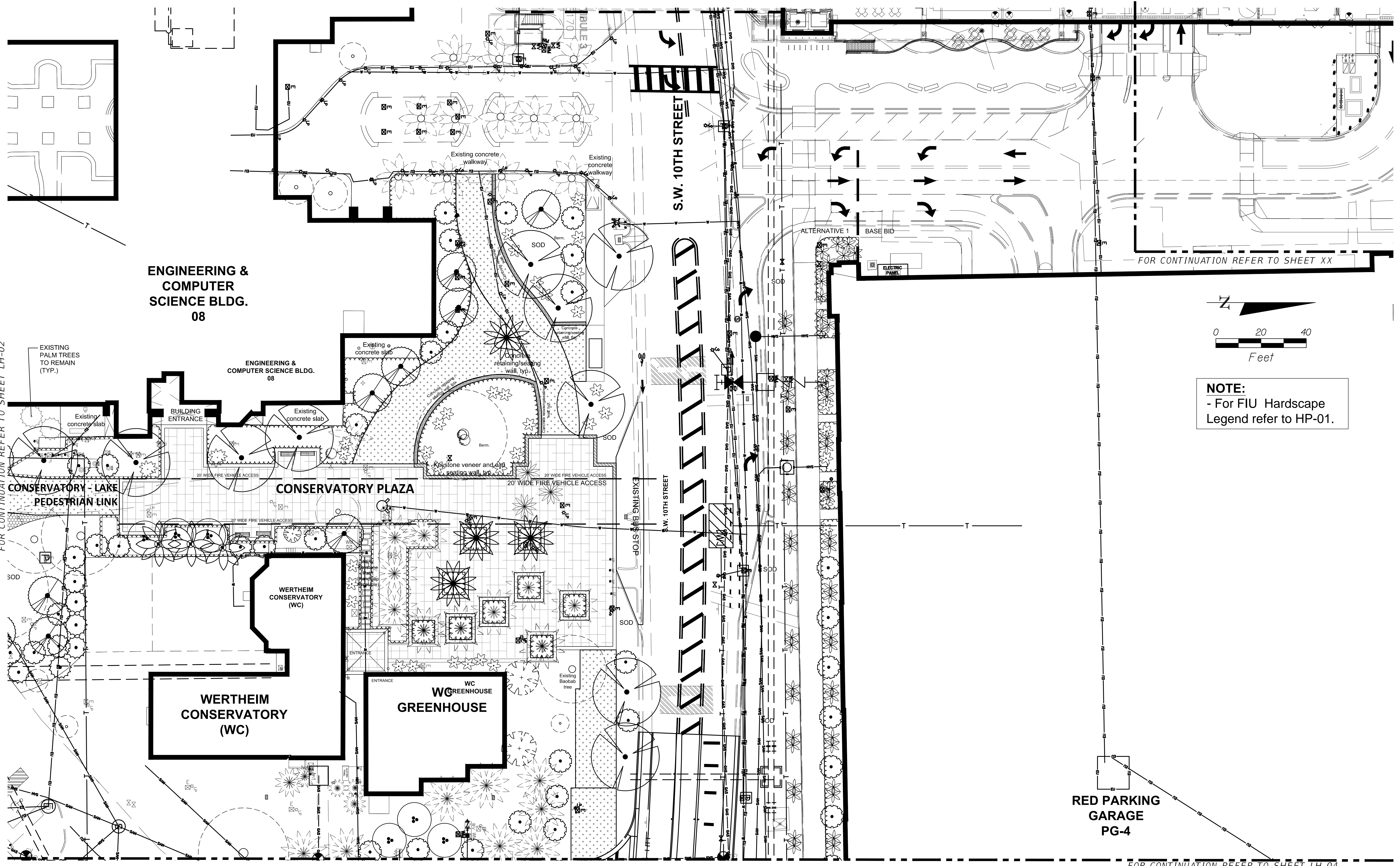
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY:		FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:	DESIGN-BUILD TEAM	
DESIGNED BY:	ROAD NO.	COUNTY
CHECKED BY:	MIAMI - DADE	PROJECT ID
		BT-904

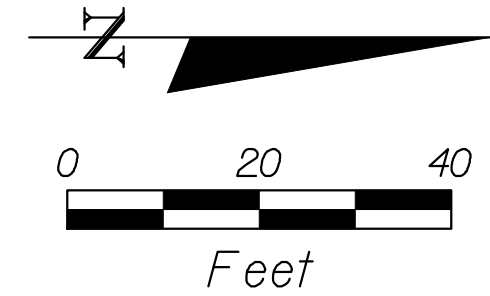
SHEET TITLE:	HARDSCAPE PLAN	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	HP-01	





FOR CONTINUATION REFER TO SHEET LH-02

FOR CONTINUATION REFER TO SHEET XX



**NOTE:**  
- For FIU Hardscape Legend refer to HP-01.

**RED PARKING GARAGE PG-4**

FOR CONTINUATION REFER TO SHEET LH-04

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

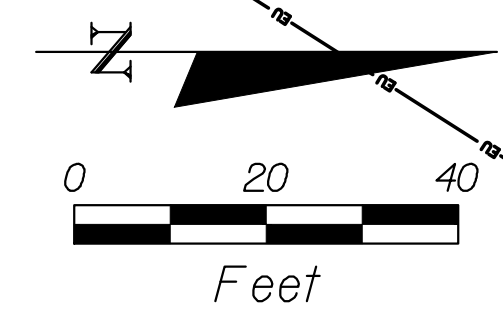
DRAWN BY: **MCM+FIGG** **FIU** FLORIDA INTERNATIONAL UNIVERSITY  
 CHECKED BY: **DESIGN-BUILD TEAM**  
 DESIGNED BY: ROAD NO. COUNTY PROJECT ID  
 CHECKED BY: MIAMI-DADE BT-904

SHEET TITLE: **HARDSCAPE PLAN**  
 PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**  
 SHEET NO.: **HP-02**

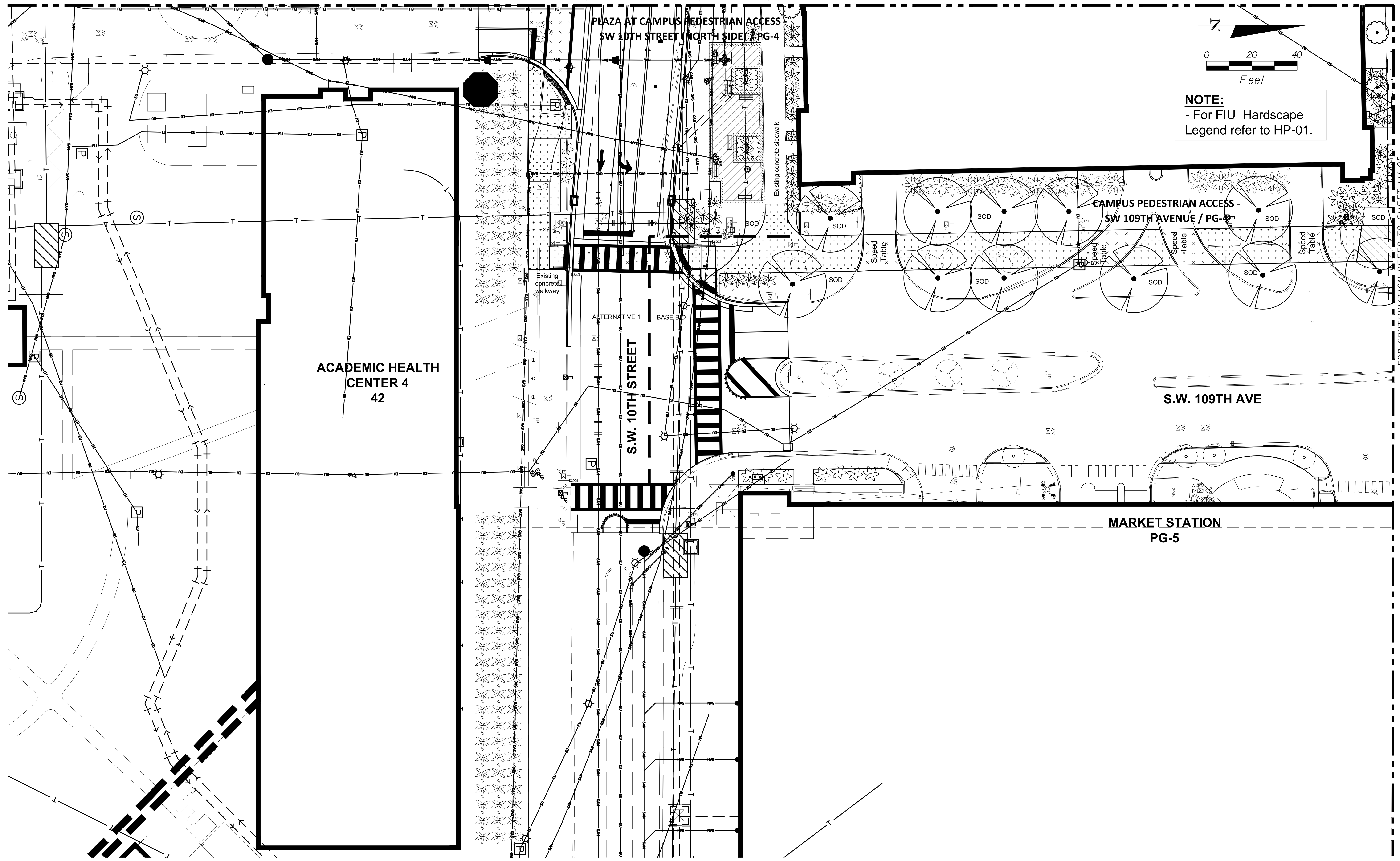


FOR CONTINUATION REFER TO SHEET LH-03

PLAZA AT CAMPUS PEDESTRIAN ACCESS  
SW 10TH STREET (NORTH SIDE) / PG-4



**NOTE:**  
- For FIU Hardscape Legend refer to HP-01.



FOR CONTINUATION REFER TO SHEET LH-05

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

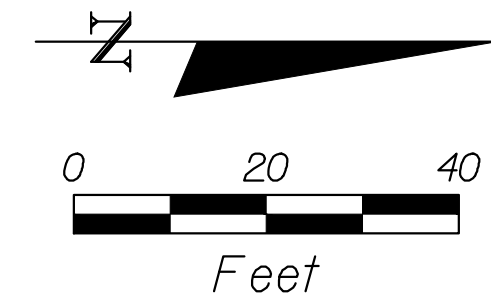
**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY:			
CHECKED BY:	DESIGN-BUILD TEAM		
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:		MIAMI - DADE	BT-904

SHEET TITLE:	HARDSCAPE PLAN	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	HP-03	



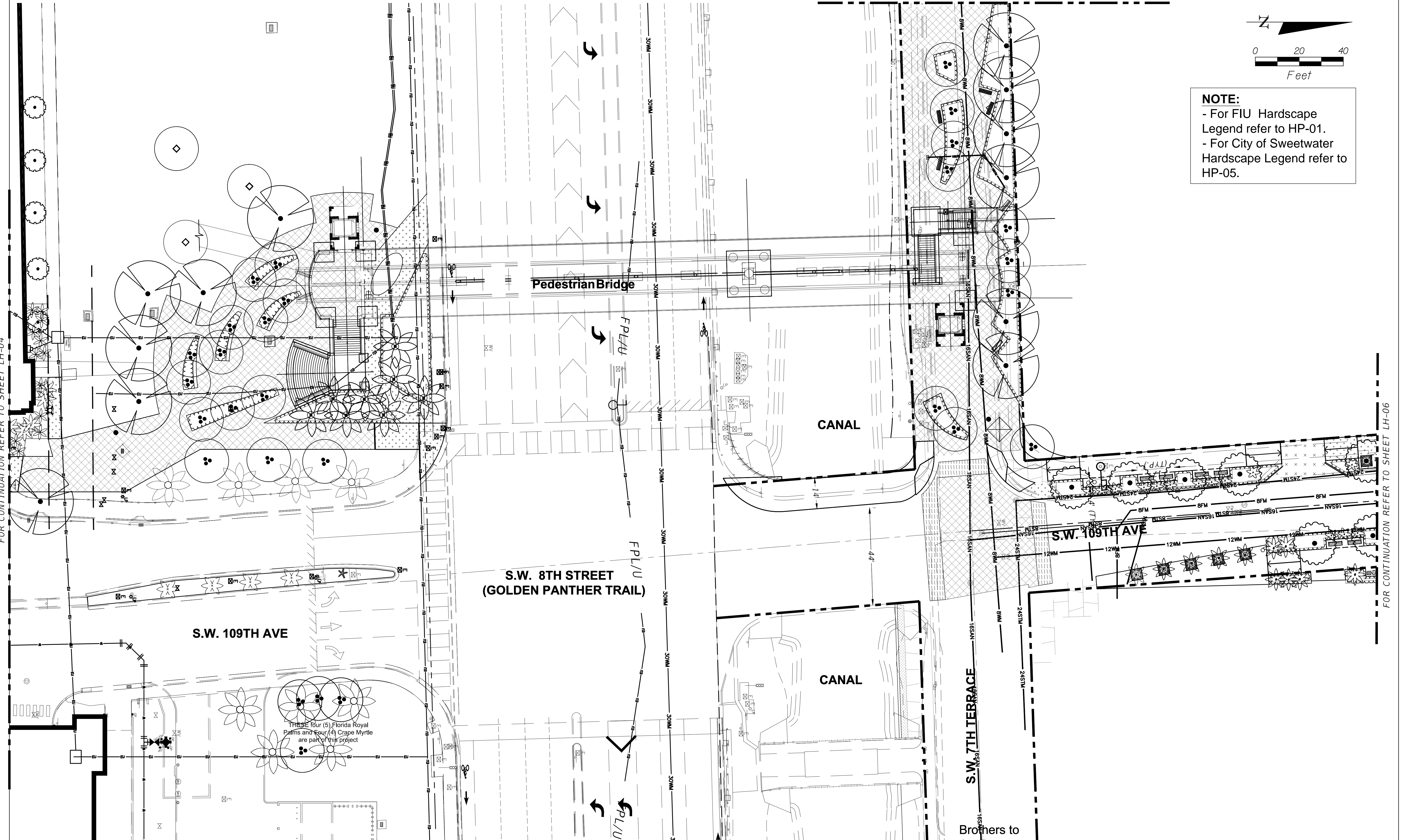
FOR CONTINUATION REFER TO SHEET XX



**NOTE:**  
 - For FIU Hardscape Legend refer to HP-01.  
 - For City of Sweetwater Hardscape Legend refer to HP-05.

FOR CONTINUATION REFER TO SHEET LH-04

FOR CONTINUATION REFER TO SHEET LH-06



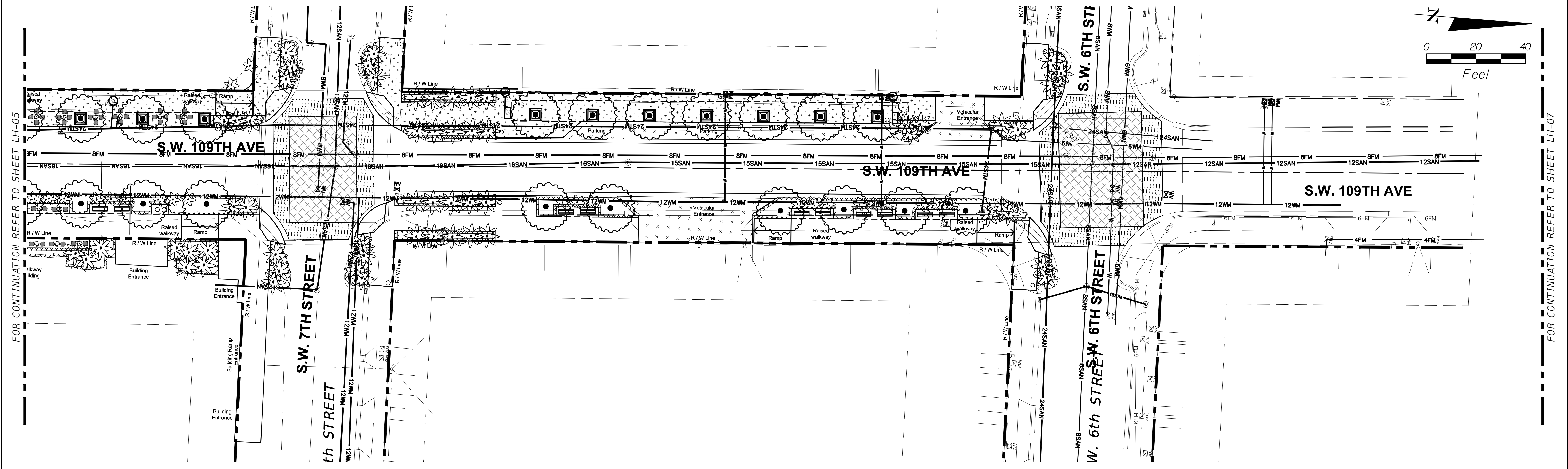
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

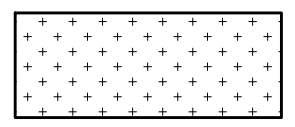
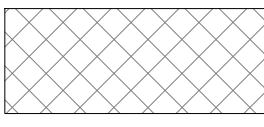
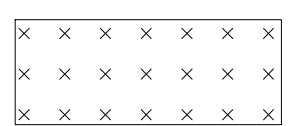
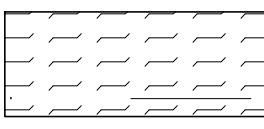
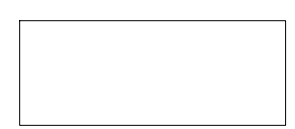
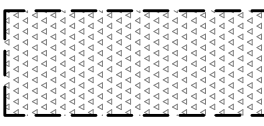


DRAWN BY:	<b>MCM + FIGG</b>		<b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:	DESIGN-BUILD TEAM		
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:		MIAMI-DADE	BT-904

SHEET TITLE:	HARDSCAPE PLAN	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	HP-04	





### HARDSCAPE LEGEND - CITY OF SWEETWATER

PAVEMENT		LIGHTING	
	**Regular gray concrete / 4" thick with tooled scoring (Pedestrian circulation) Finish: Medium broom finish. Refer to Engineering Specifications.		Interlocking concrete pavers Size & Color: Standard - To be determined by Owner. Installation: As per manufacturer's specifications.
	**Regular gray concrete / 7"-8" thick with tooled scoring (Vehicular and pedestrian circulation) Finish: Medium broom finish. Refer to Engineering Specifications.		**Existing integral color concrete pavement to be treated with 'Revive Color Refresher' and 'Revive Sealer' by Scofield (or approved equal) Color: Standard - To be determined by Owner.
	Existing concrete walkway (protect from damage).		Areas of Silva Cell System (or approved equal) under pavement (including: geotextile, geogrids, aggregates, sub base material, backfill, drainage system, root barrier, compost, and the installation of planting soil)
	Planting area with Irrigation System (Combination Shrub and Groundcover planting area - Refer to Planting Legend)		
		TREE GRATE	
			5' Square Pre-cast Concrete Tree Grate (Model: 5 TGS-1) Dura Art Stone standard tree grate (or approved equal) Color and finish to be selected by Owner.

- \*\* NOTE:**
- 1) For concrete pavement structure and specifications and design criteria, refer to Eng. drawing;
  - 2) All concrete scoring shall be tooled scoring. Sawcut will not be acceptable.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**MILLER LEGG**  
 South Florida Office: 1800 North Douglas Road · Suite 200  
 Pembroke Pines, Florida · 33024-3200  
 954-436-7000 · Fax: 954-436-8664  
 www.millerlegg.com

DRAWN BY: **MCM+FIGG**  
 CHECKED BY: **DESIGN-BUILD TEAM**  
 DESIGNED BY: **FIU**  
 CHECKED BY: **FLORIDA INTERNATIONAL UNIVERSITY**

ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT-904

SHEET TITLE: **HARDSCAPE PLAN**

PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

SHEET NO.: **HP-05**



SDATES \$TIMES \$FILES



INDEX OF DRAWINGS

- B-1 INDEX OF DRAWINGS
- B-2 GENERAL NOTES
- B-3 GENERAL PLAN AND ELEVATION
- B-4 TYPICAL CROSS-SECTION
- B-5 FOUNDATION LAYOUT
- B-6 PYLON FOOTING DETAILS
- B-7 PYLON DIMENSIONS
- B-8 PYLON/TRUSS SYSTEM CONNECTION DETAILS
- B-9 TRUSS SYSTEM MAINSPAN LAYOUT
- B-10 TRUSS SYSTEM BACKSPAN LAYOUT
- B-11 END DIAPHRAGM DIMENSIONS I
- B-12 END DIAPHRAGM DIMENSIONS II
- B-13 DECK TRANSVERSE POST-TENSIONING LAYOUT
- B-14 LONGITUDINAL POST-TENSIONING DETAILS I
- B-15 LONGITUDINAL POST-TENSIONING DETAILS II
- B-16 STAY DETAILS
- B-17 P.T. BAR DETAILS
- B-18 NORTH LANDING DETAILS I
- B-19 NORTH LANDING DETAILS II
- B-20 SOUTH LANDING DETAILS I
- B-21 SOUTH LANDING DETAILS II
- B-22 EXPANSION JOINT DETAILS
- B-23 DRAINAGE DETAILS
- B-24 MISSILE GUARD FENCE DETAILS
- B-25 ELEVATOR STRUCTURE DETAILS
- B-26 ABC & BRIDGE STAGING AREA
- B-27 ERECTION SEQUENCE I
- B-28 ERECTION SEQUENCE II

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 DESIGN-BUILD TEAM			INDEX OF DRAWINGS	
						ROAD NO. COUNTY PROJECT ID		PROJECT NAME:		SHEET NO.		
								MIAMI - DADE	BT - 904	UNIVERSITYCITY PROSPERITY PROJECT		B-1

\$USERS

\$DATES

\$TIMES

\$FILES



**GENERAL NOTES**

**CONSTRUCTION SPECIFICATIONS:**

1. FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2013.
2. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECOND EDITION, 2004 WITH INTERIMS THROUGH 2006.

**DESIGN SPECIFICATIONS:**

1. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS SEVENTH EDITION WITH 2015 INTERIMS.
2. FDOT STRUCTURES DESIGN MANUAL, JANUARY 2015.
3. AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, SECOND EDITION (2009).
4. CEB-FIP MODEL CODE, FIRST EDITION, 1990, TIME DEPENDENT BEHAVIOR OF CONCRETE, CREEP AND SHRINKAGE.
5. AASHTO/AMERICAN WELDING SOCIETY (AWS) D1.5 BRIDGE WELDING CODE (2005).
6. 28 CODE OF FEDERAL REGULATIONS PART 36, 2010 AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN.
7. AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES, 1999.

**DESIGN METHODS:**

LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).

**DESIGN LOADINGS:**

**1. DEAD LOAD**

UNIT WEIGHT OF REINFORCED/PRESTRESSED CONCRETE 150 PCF  
 UNIT WEIGHT OF STRUCTURAL STEEL 490 PCF  
 PEDESTRIAN FENCE ALLOWANCE 200 PLF  
 OVERLAY ALLOWANCE 6.25 PSF

**2. LIVE LOAD**

SIDEWALK PEDESTRIAN LOADING 90 PSF

**3. FUTURE WEARING SURFACE**

ALLOWANCE FOR FUTURE WEARING SURFACE IS NOT PROVIDED.

**4. STAY-IN-PLACE FORMS**

THE USE OF STAY-IN-PLACE FORMS IS PERMITTED. THE STRUCTURAL CAPACITY DUE TO STAY-IN-PLACE FORMS SHALL BE DISCARDED.

**5. WIND LOADS**

WIND LOAD FOR STRUCTURAL MEMBERS WAS COMPUTED IN ACCORDANCE WITH FDOT STRUCTURES DESIGN GUIDELINES.

**6. THERMAL LOADS**

NORMAL MEAN TEMPERATURE: 70° F  
 THERMAL COEFFICIENT: 6.0x10<sup>-6</sup>/°F (CONCRETE)  
 TEMPERATURE RANGE FOR DESIGN OF STRUCTURES:  
 RISE: 35° F (CONCRETE)  
 FALL: 35° F (CONCRETE)

**7. EARTHQUAKE EFFECTS**

BRIDGE IS DESIGNED TO MEET THE MINIMUM BEARING SUPPORT. EARTHQUAKE EFFECT WAS COMPUTED IN ACCORDANCE WITH SECTION 2.3 OF THE STRUCTURE DESIGN GUIDELINES.

**8. VEHICULAR COLLISION**

THE PIER POSTS SUPPORTING THE BRIDGE ARE DESIGNED TO RESIST A 600K IMPACT LOAD PER FDOT 2015 STRUCTURE DESIGN GUIDELINES.

**9. VIBRATION**

THE STRUCTURE SATISFIES THE HORIZONTAL AND VERTICAL VIBRATION CRITERIA SPECIFIED IN CHAPTER 6 OF THE AASHTO LRFD PEDESTRIAN BRIDGE SPECIFICATIONS.

**SCREEDING DECK SLABS:**

THE DECK SHALL BE SCREEDED TO CREATE THE TRANSVERSE SLOPE SHOWN IN THE PLANS. APPLY A CLASS 4 DECK FINISH TO ALL WALKING SURFACES IN ACCORDANCE WITH SECTION 400-15.2.5.2 OF THE SPECIFICATIONS. GRIND UP TO ¼" TO ENSURE A UNIFORM TEXTURE.

**DECK PLANING AND PROFILOGRAPHING:**

PROFILING OF BRIDGE DECK SURFACE SHALL NOT BE REQUIRED. GRIND ALL SURFACE IRREGULARITIES IN ACCORDANCE WITH SECTION 400-15.2.5.4 OF THE SPECIFICATIONS.

**SCOUR:**

SCOUR WILL BE CONSIDERED IN THE DESIGN OF THE SUBSTRUCTURE WITH SCOUR ELEVATION BASED ON THE 100 AND 500 YEAR FLOOD EVENT.

**UTILITIES:**

UTILITIES ON THE BRIDGE ARE LIMITED TO ELECTRICAL SYSTEMS TO SUPPORT THE LIGHTING.

**CONCRETE:**

1. ALL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF THE STANDARD SPECIFICATIONS, OR AS MODIFIED BY THE ENGINEER.

CLASS	MINIMUM 28 DAY COMPRESSIVE STRENGTH	LOCATION
VI	8500 PSI	SUPERSTRUCTURE, PYLON
IV (DRILLED SHAFT)	4000 PSI	DRILLED SHAFTS
IV	5500 PSI	FOOTINGS, PIERS, PIER PROTECTION BARRIER

2. PROVIDE ¾" X ¾" CHAMFER ON ALL EXPOSED EDGES, UNLESS NOTED OTHERWISE.
3. CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT LOCATIONS INDICATED ON THE PLANS. ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE WRITTEN APPROVAL OF THE ENGINEER.
4. FINISH COATING: A CLASS 1 SURFACE FINISH SHALL BE APPLIED TO THE SUPERSTRUCTURE (EXCEPT THE TOP DECK) AND A CLASS 3 SURFACE FINISH SHALL BE APPLIED TO THE PIERS AND PYLON FACES.

**PRESTRESSING STRANDS:**

STRANDS - ASTM A416, GRADE 270, LOW RELAXATION  
 STRAND DIAMETER 0.6 INCH  
 MODULUS OF ELASTICITY 28,500 KSI  
 MAXIMUM JACKING STRESS 218.7 KSI  
 MAXIMUM ANCHORING STRESS  
 AWAY FROM ANCHORAGES 199.8 KSI  
 AFTER ANCHOR SET AT ANCHOR 189.0 KSI  
 ANCHOR SET 0.375 INCH  
 FRICTION COEFFICIENT 0.23 (PLASTIC DUCT)  
 WOBBLE COEFFICIENT 0.00020 PER FT. (INTERNAL)

**POST-TENSIONING DUCTS:**

THE TYPE AND MATERIAL OF DUCT SHALL COMPLY WITH SECTION 462 OF THE FDOT SPECIFICATIONS.

**STRUCTURAL STEEL:**

1. MATERIAL PROPERTIES FOR STRUCTURAL STEEL SHALL BE DETERMINED IN ACCORDANCE WITH THE SPECIFICATIONS SECTION 962.
2. ALL STEEL ELEMENTS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH SPECIFICATIONS SECTION 460.
3. FOR ALL MISCELLANEOUS STEEL ITEMS PERMANENTLY CAST IN THE DECK, USE GALVANIZED STEEL, STAINLESS STEEL, OR APPROVED COATING SYSTEM.

**REINFORCING STEEL:**

ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.

**ENVIRONMENT:**

SUPERSTRUCTURE: MODERATELY AGGRESSIVE  
 SUBSTRUCTURE: MODERATELY AGGRESSIVE  
 LOCATION: URBAN

**CONCRETE COVER:**

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES. UNLESS OTHERWISE NOTED, MINIMUM COVER SHALL BE AS FOLLOWS:




LOCATION	COVER	FOOTINGS	
		LOCATION	COVER
CANOPY (TOP)	2¼"	CAST AGAINST EARTH	4"
CANOPY (OTHER)	2"		
DECK (TOP)	2¼"	CAST AGAINST FORMED SURFACES	3"
DECK (OTHER)	2"		
BEARING PEDESTALS	2"		
PIER	2"		
PYLON	2"		

**DIMENSIONS AND ELEVATIONS:**

1. ALL DIMENSIONS ARE IN FEET AND INCHES EXCEPT AS NOTED.
2. ALL DIMENSIONS ARE MEASURED HORIZONTALLY AND VERTICALLY UNLESS NOTED OTHERWISE.
3. ALL ELEVATIONS ARE IN FEET AND ARE BASED ON 1929 NATIONAL GEODETIC VERTICAL DATUM (NGVD29).

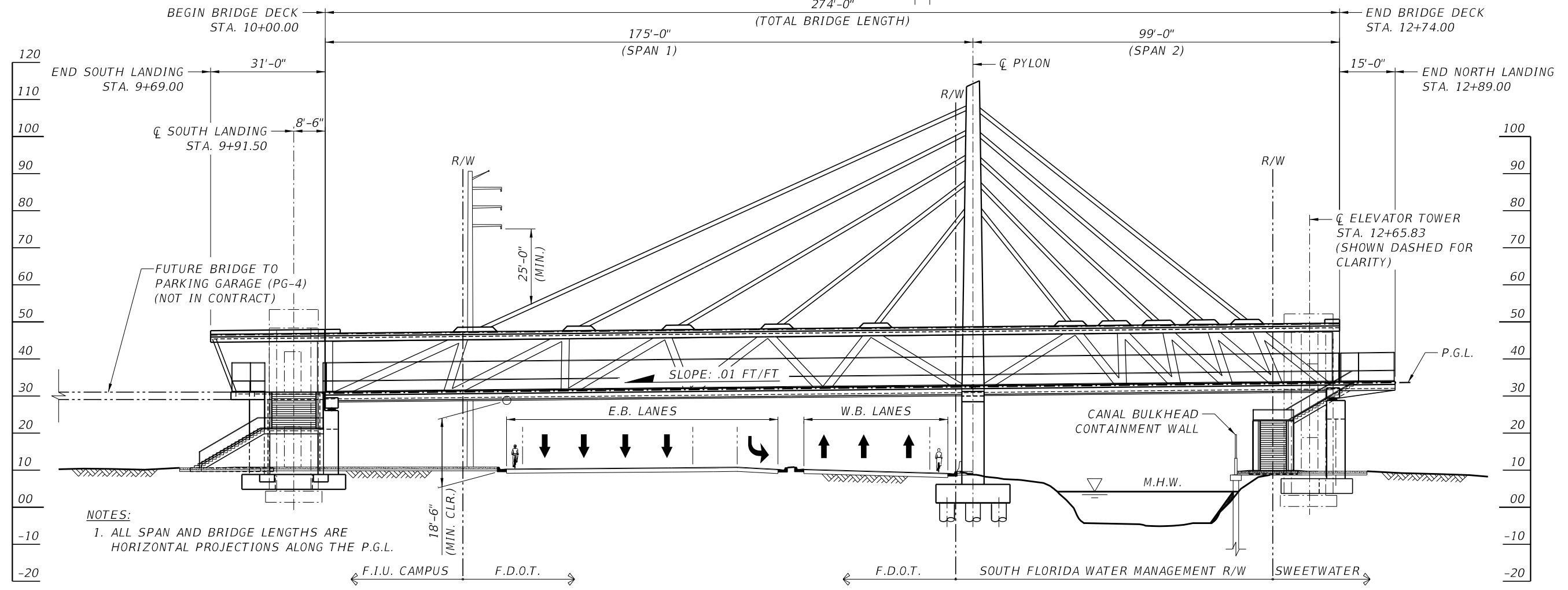
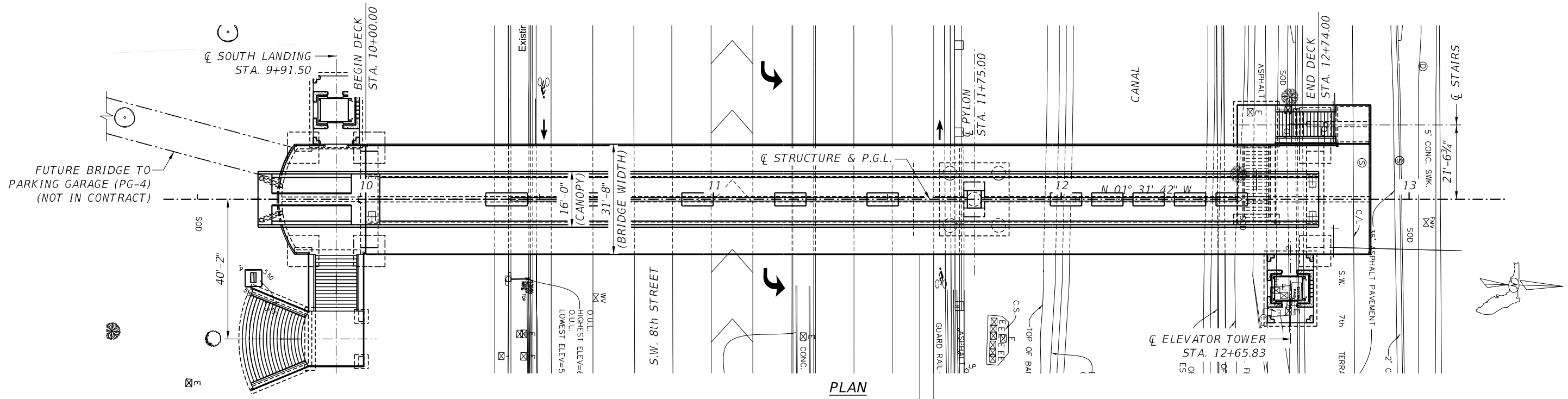
**FUTURE BEARING REPLACEMENT:**

1. JACK LOCATIONS AND ESTIMATED LOADS ARE FOR USE IN THE EVENT THAT IT BECOMES NECESSARY TO REPLACE THE BEARING PADS.
2. THE JACKING OPERATION SHALL BE PERFORMED SUCH THAT THE DECK AT A PIER ARE LIFTED SIMULTANEOUSLY. JACKING SHALL CONTINUE UNTIL THE BEARING PADS CAN BE FREED BUT IN NO CASE SHALL THE CLEAR SPACE BETWEEN THE DECK AND THE BEARING EXCEED ½".
3. JACKS SHALL BE EQUIPPED WITH LOCKING RINGS THAT WILL PREVENT MOVEMENT IN THE EVENT HYDRAULIC PRESSURE IS LOST. JACKS SHALL BE LOCKED OFF PRIOR TO REMOVAL OF THE BEARING PADS.
4. SHIM PLATES SHALL BE PROPERLY SIZED TO LIMIT THE ULTIMATE BEARING STRESS ON CONCRETE ACCORDING TO ARTICLE 5.7.5 OF THE AASHTO LRFD SPECIFICATIONS.
5. DURING PAD REPLACEMENT, BRIDGE SHALL BE KEPT OPEN WITH REDUCED LIVE LOAD.

REVISIONS						ENGINEER OF RECORD:  424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332	DRAWN BY: DCB CHECKED BY: MF DESIGNED BY: MF CHECKED BY: WDP	 	SHEET TITLE: <b>GENERAL NOTES</b>		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY	PROJECT ID

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

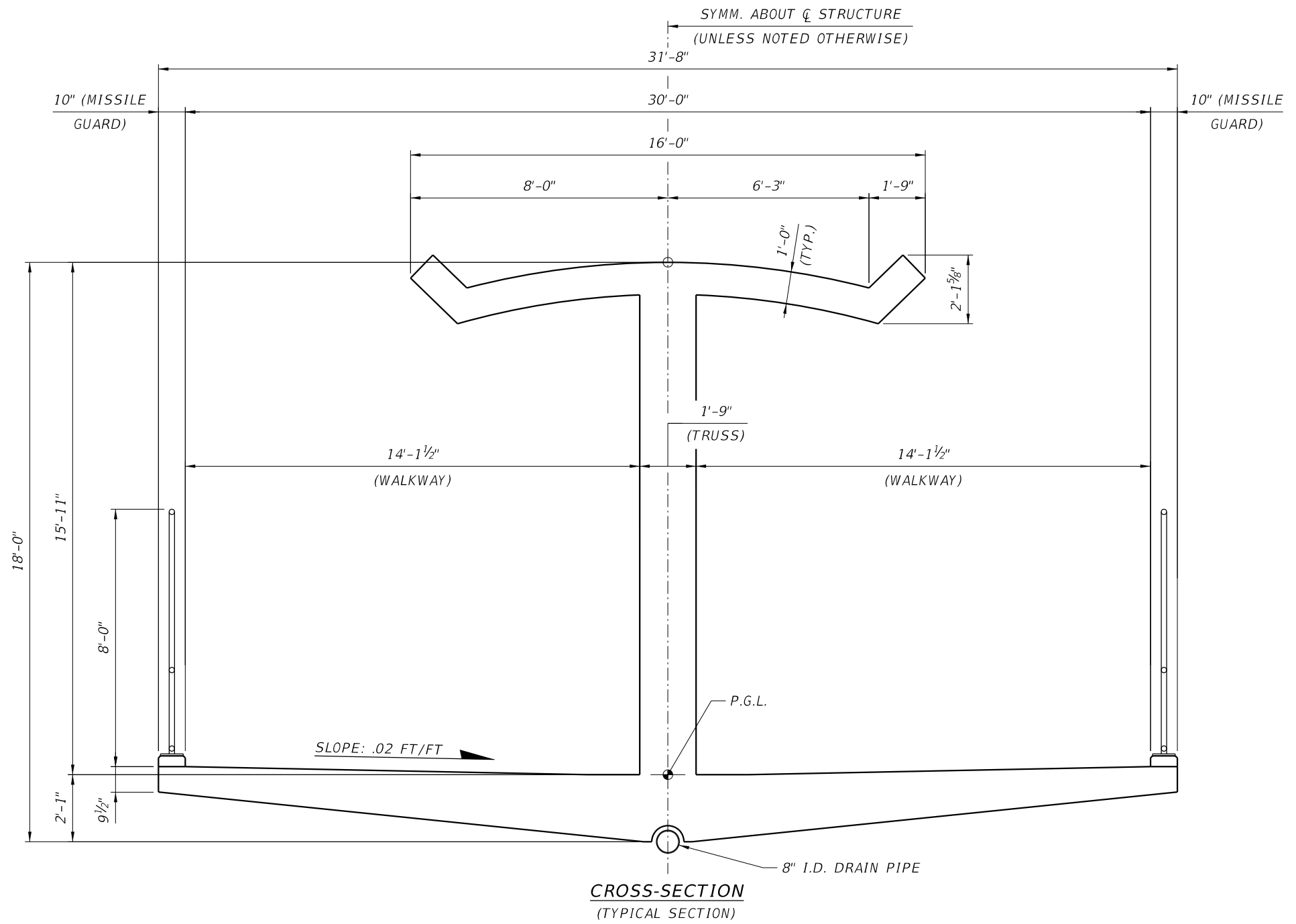




**NOTES:**  
 1. ALL SPAN AND BRIDGE LENGTHS ARE HORIZONTAL PROJECTIONS ALONG THE P.G.L.

REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 ROAD NO. COUNTY PROJECT ID			GENERAL PLAN AND ELEVATION	
						 FLORIDA INTERNATIONAL UNIVERSITY					PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT	
						MIAMI - DADE BT - 904					SHEET NO. B-3	

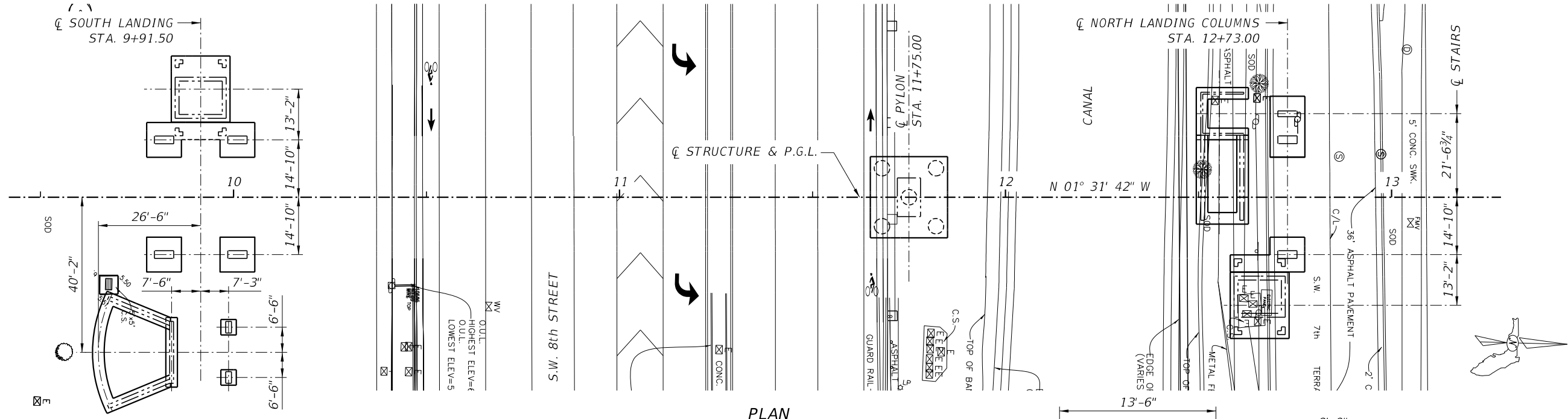




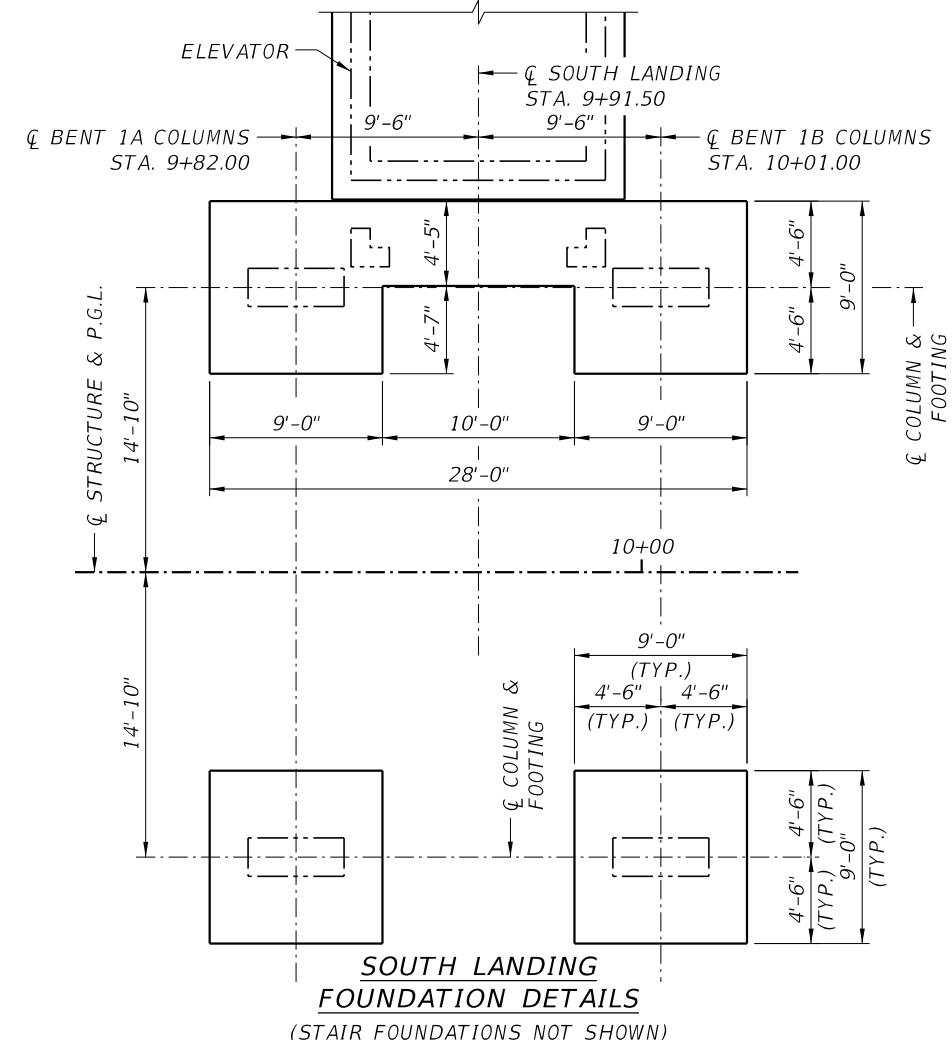
REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	FIGG 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			DCB CHECKED BY: MF DESIGNED BY: EDL CHECKED BY: MF			MCM + FIGG FTU DESIGN-BUILD TEAM FLORIDA INTERNATIONAL UNIVERSITY		
						ROAD NO.	COUNTY	PROJECT ID	UNIVERSITYCITY PROSPERITY PROJECT			SHEET NO.		
							MIAMI - DADE	BT - 904	UNIVERSITYCITY PROSPERITY PROJECT			B-4		
						SUSERS	SDATES	STIMES	SFILES					

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

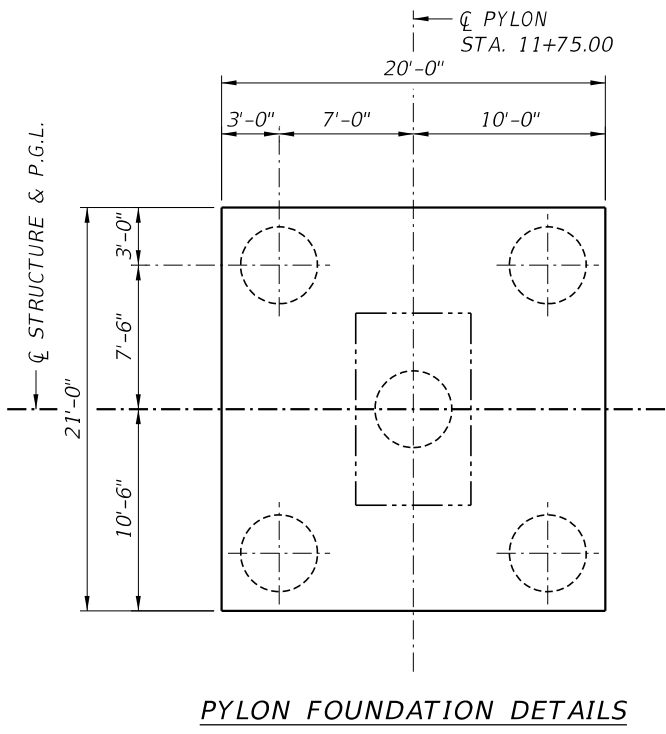




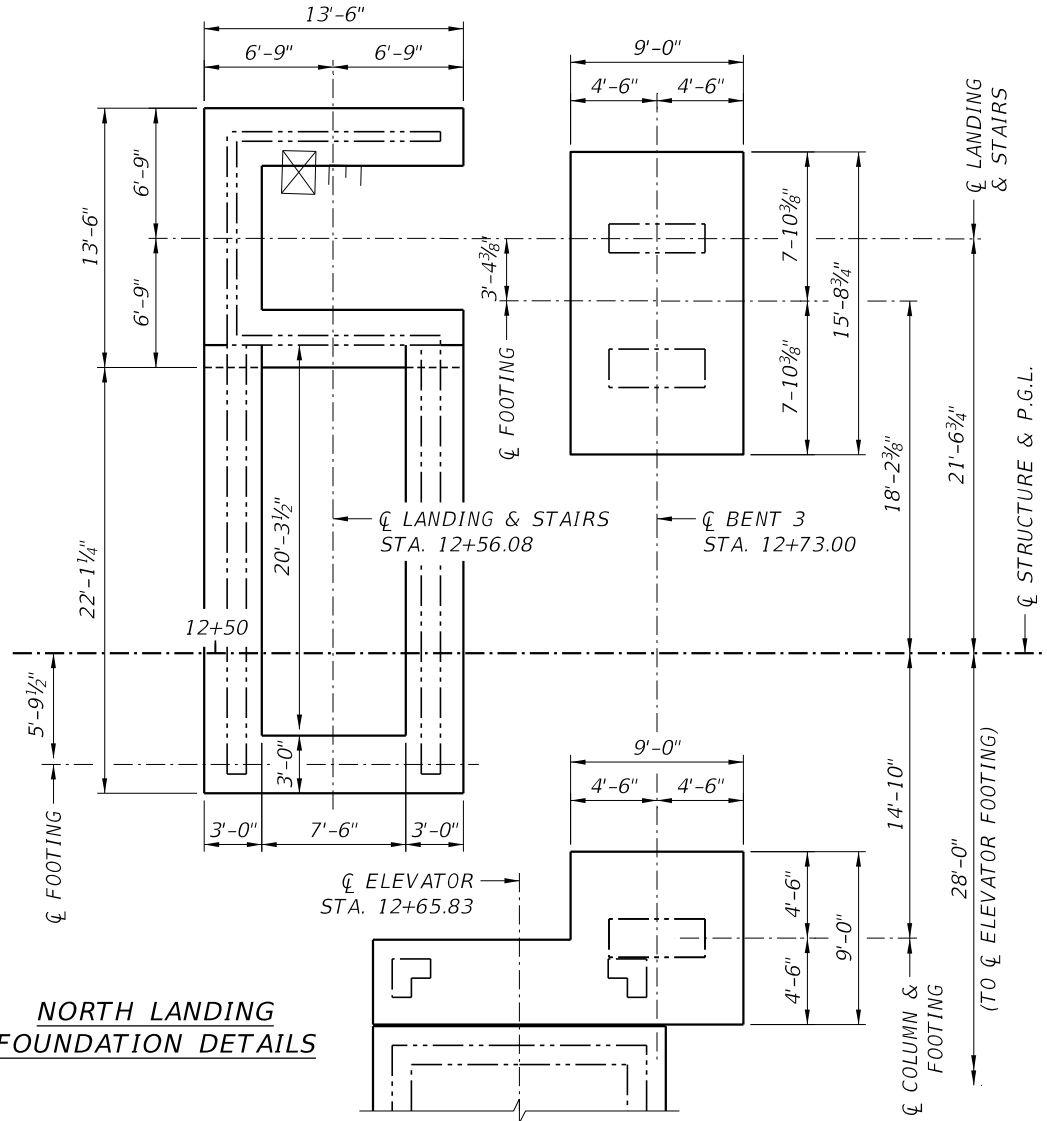
PLAN



SOUTH LANDING FOUNDATION DETAILS  
(STAIR FOUNDATIONS NOT SHOWN)



PYLON FOUNDATION DETAILS



NORTH LANDING FOUNDATION DETAILS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

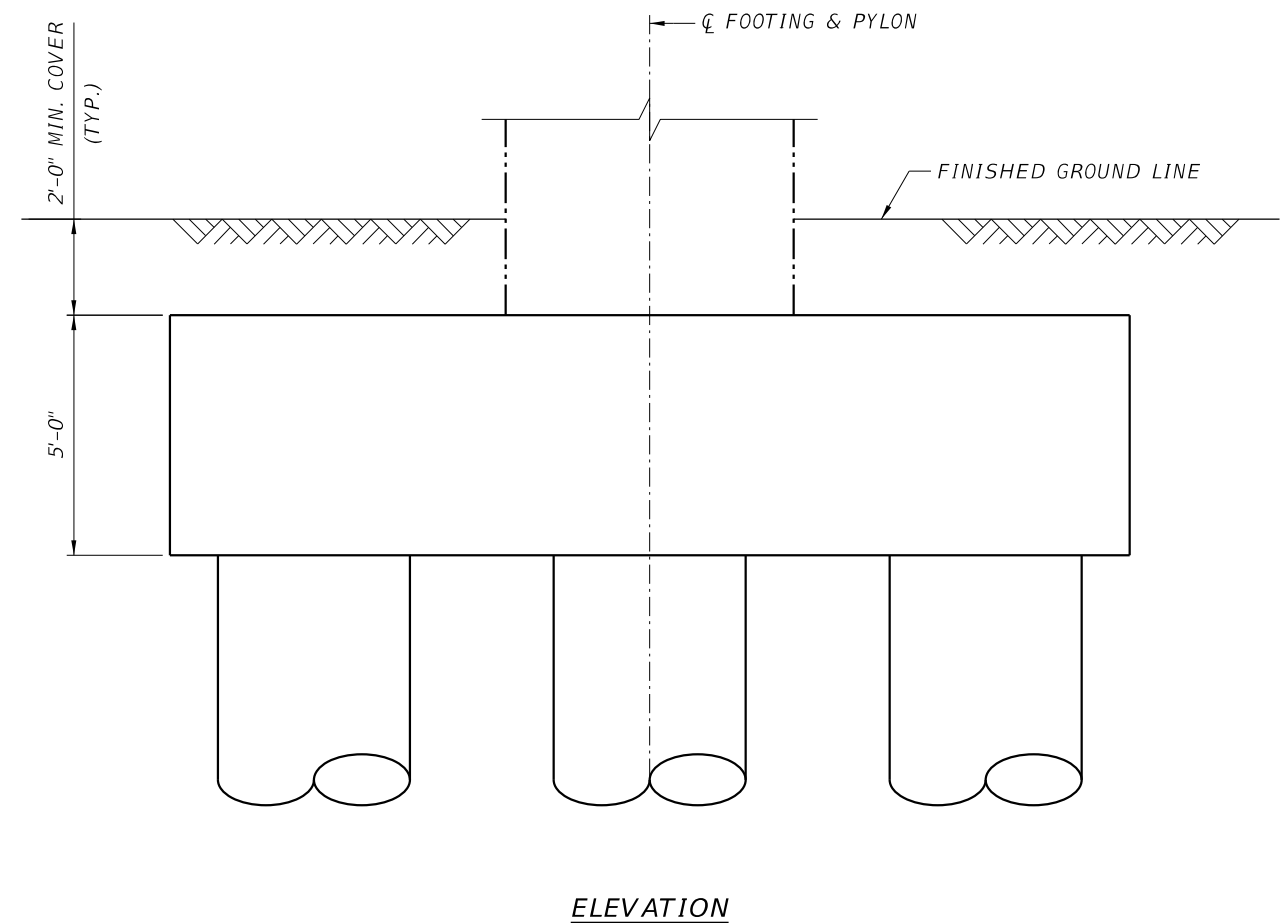
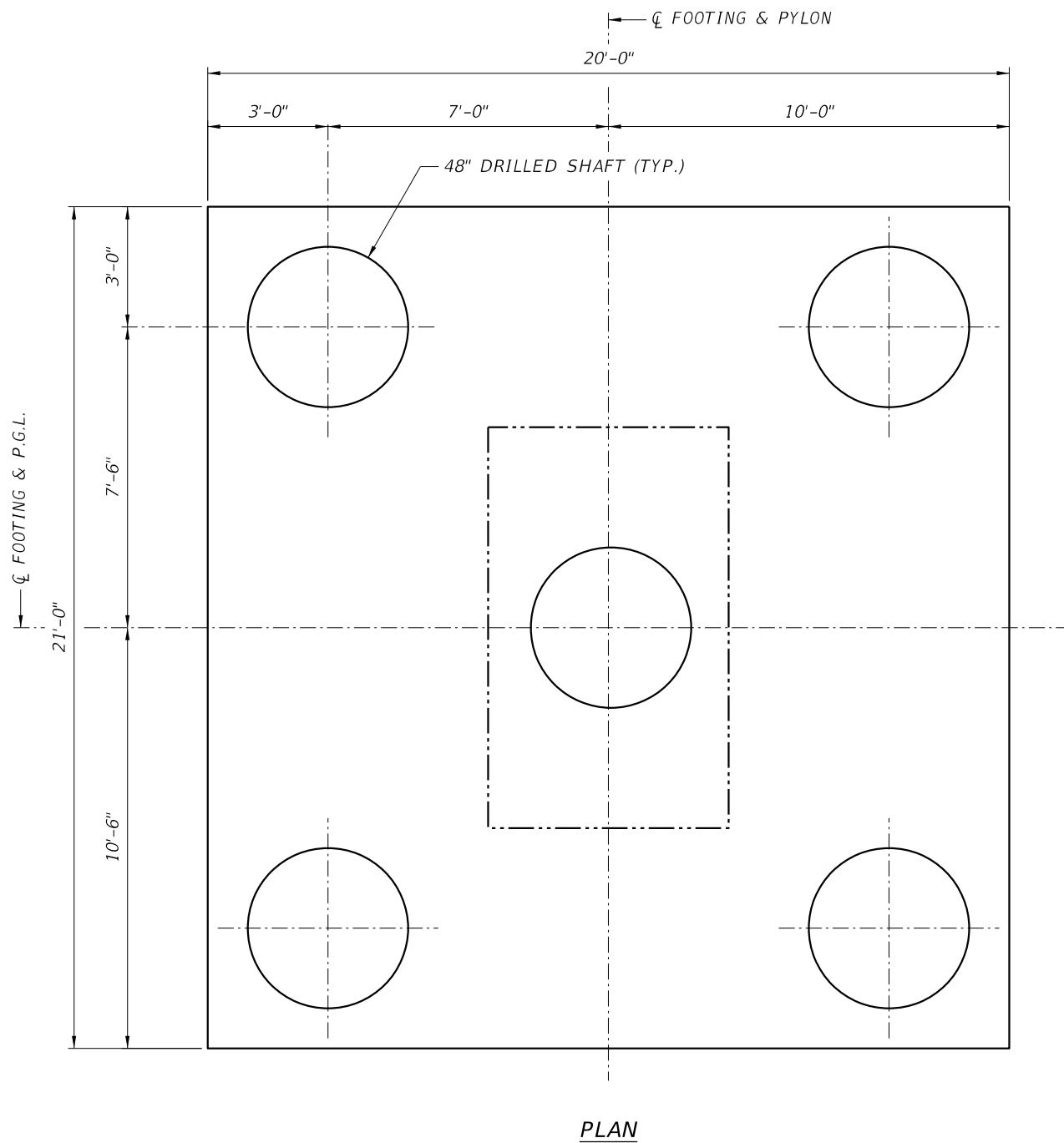
DRAWN BY: DCB  
 CHECKED BY: MF  
 DESIGNED BY: EDL  
 CHECKED BY: MF

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904


SHEET TITLE: FOUNDATION LAYOUT

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT



SHEET NO. B-5



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
 CHECKED BY: EDL  
 DESIGNED BY: EDL  
 CHECKED BY: MF

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

SHEET TITLE: **PYLON FOOTING DETAILS**

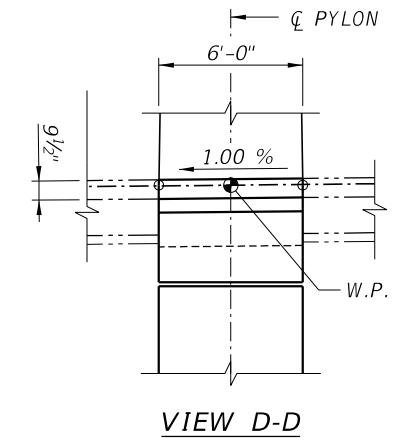
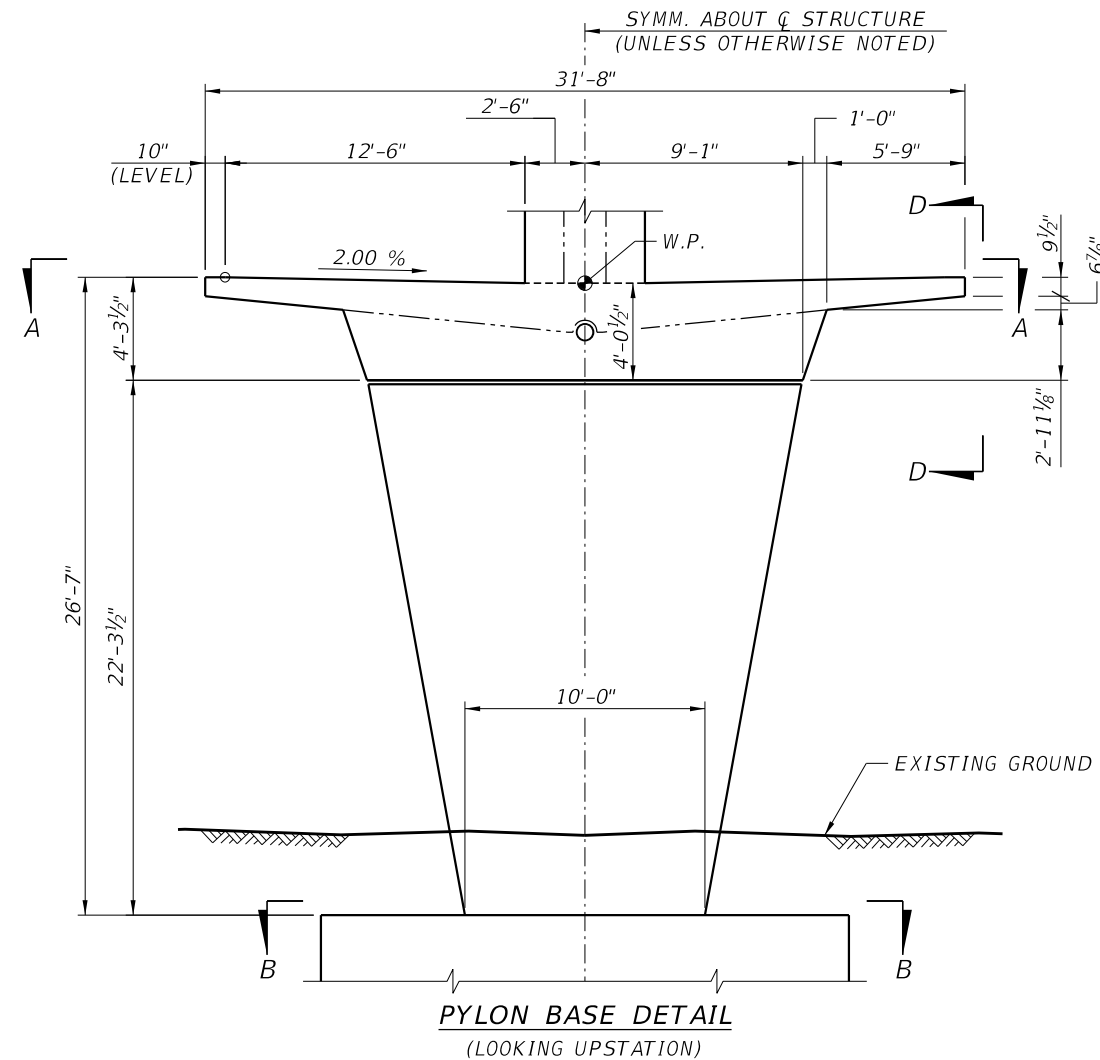
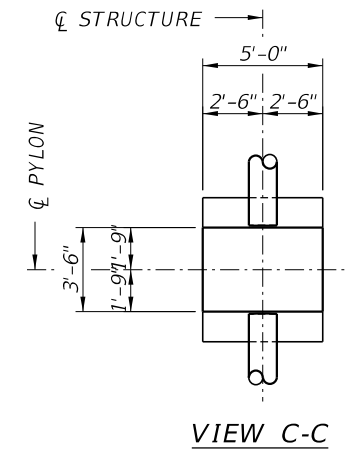
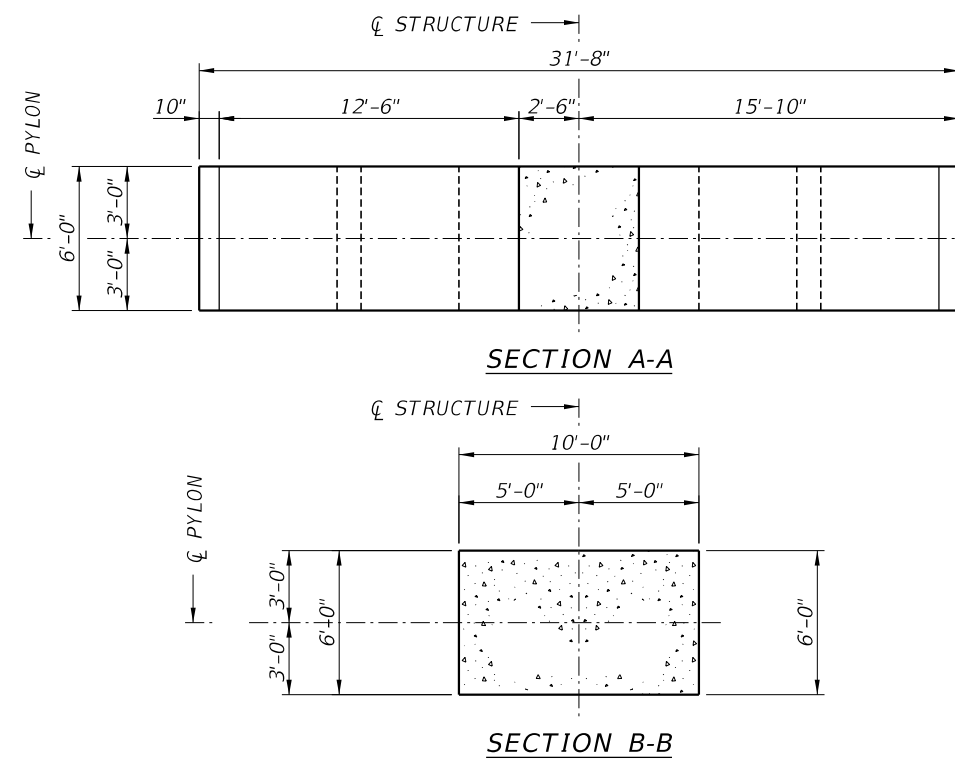
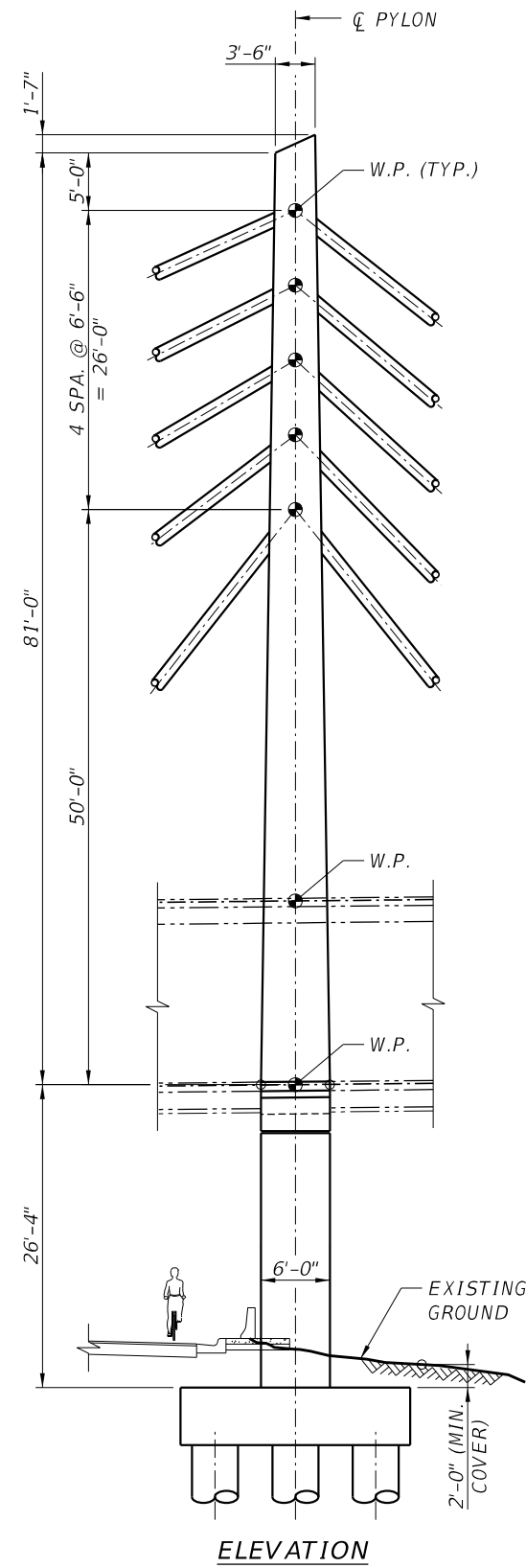
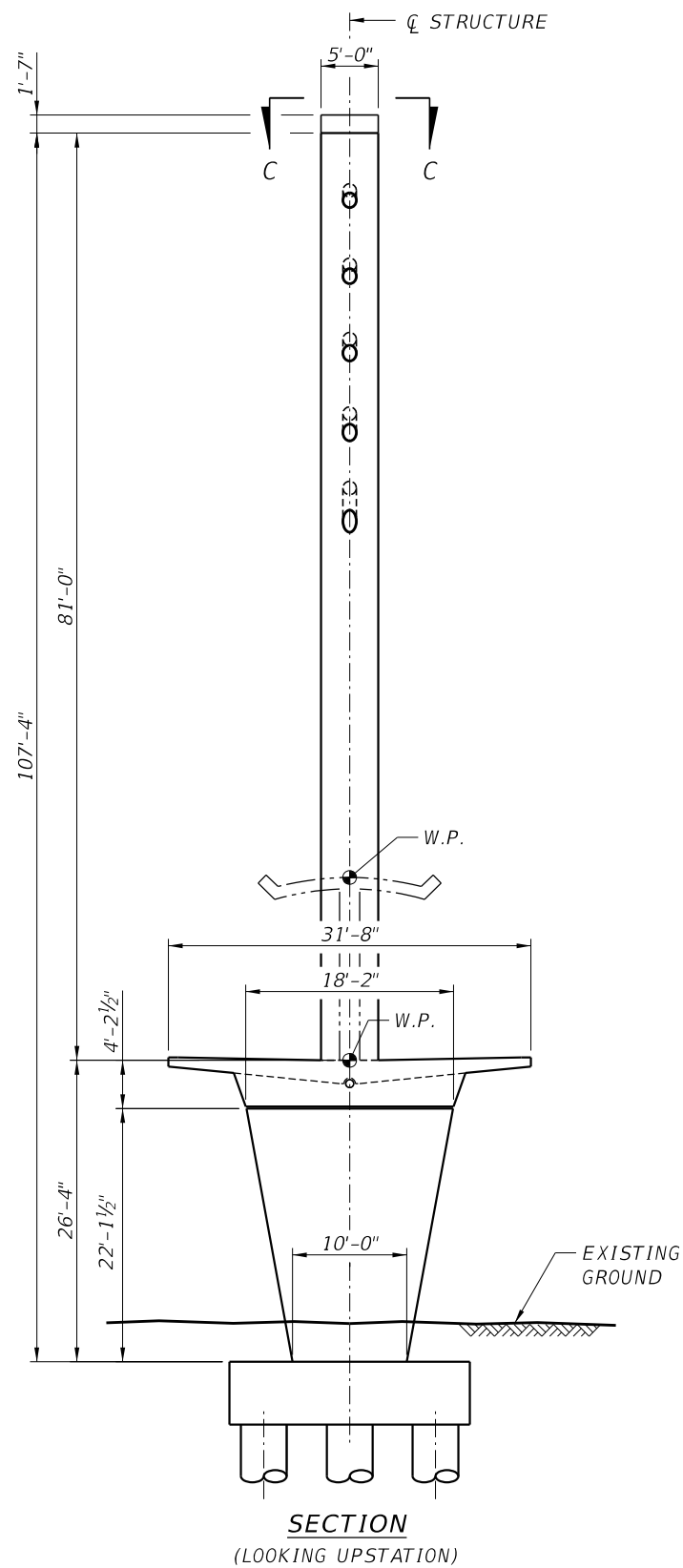
PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

SHEET NO. **B-6**


PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015






DIRECTION OF STATIONING →



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
 CHECKED BY: MF  
 DESIGNED BY: EDL  
 CHECKED BY: MF

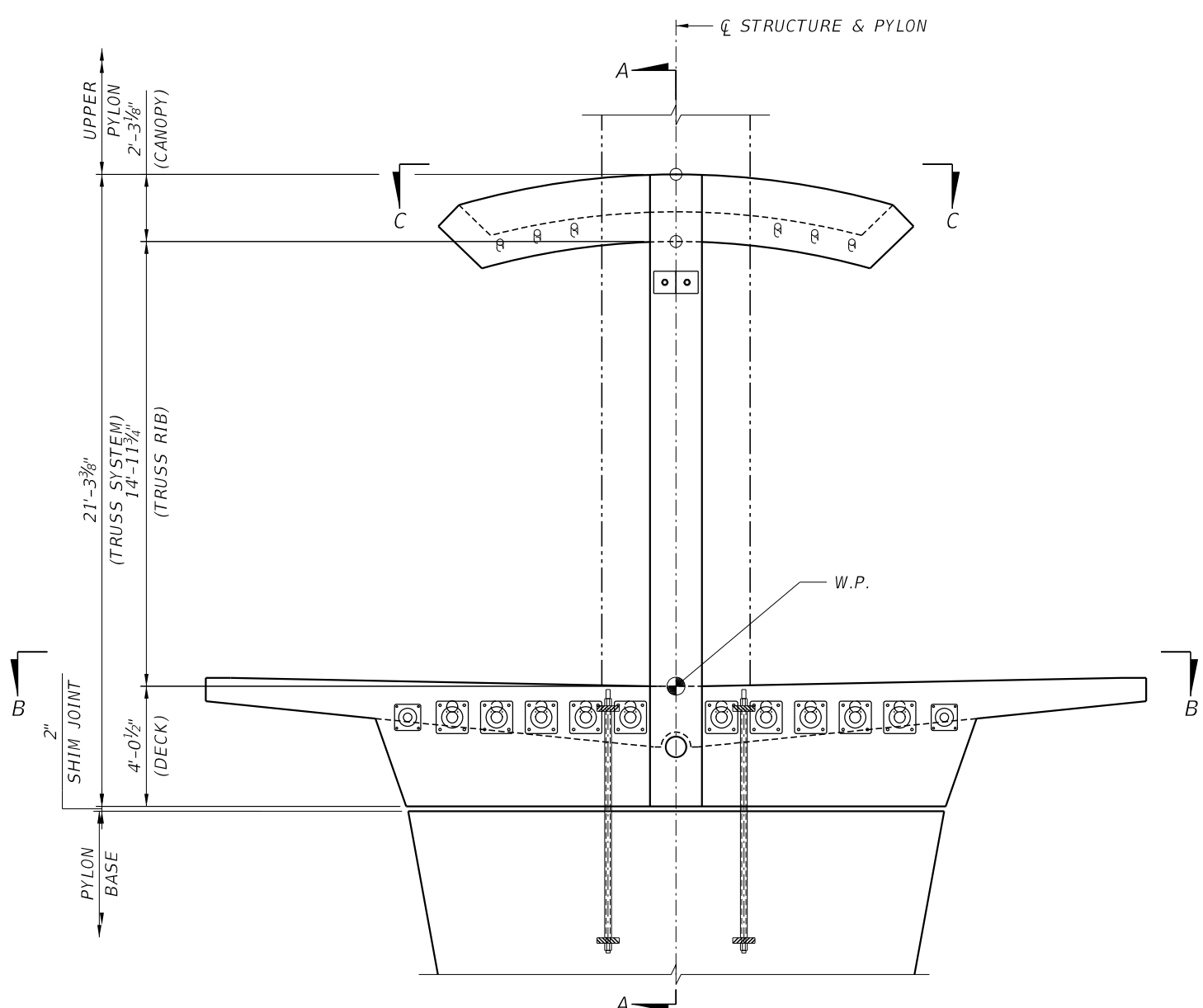
ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT - 904

SHEET TITLE: PYLON DIMENSIONS

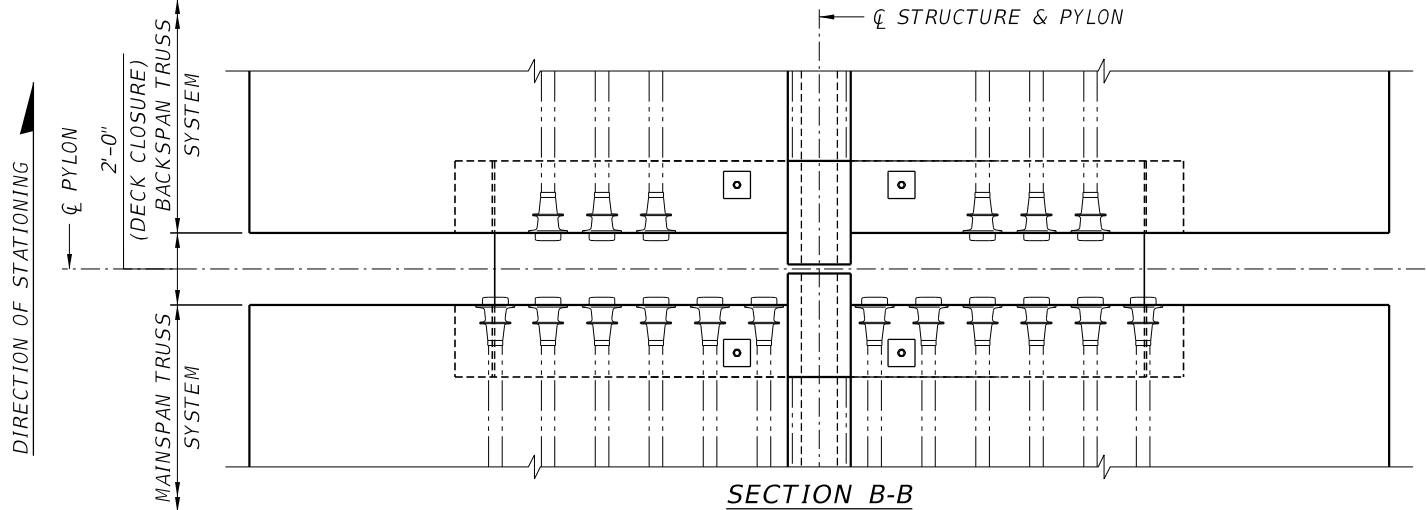
PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

SHEET NO. B-7

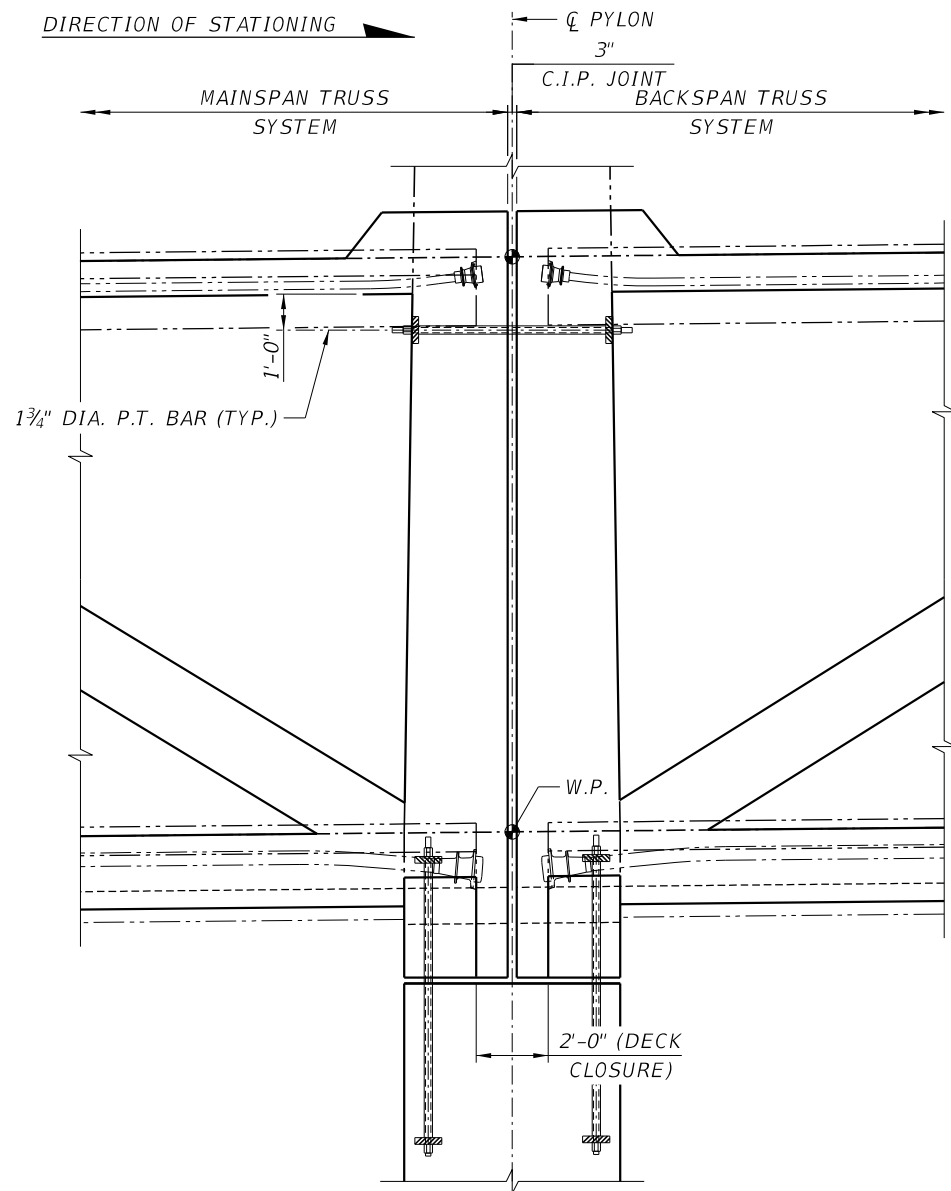
PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



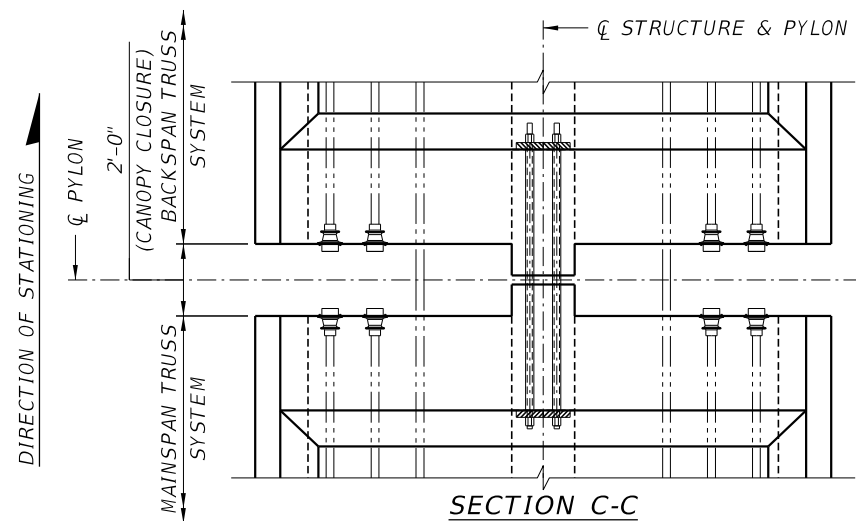
**CROSS-SECTION**  
(LOOKING UPSTATION)



**SECTION B-B**



**SECTION A-A**



**SECTION C-C**

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
 CHECKED BY: MF  
 DESIGNED BY: MF  
 CHECKED BY: WDP

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

SHEET TITLE: **PYLON/TRUSS SYSTEM CONNECTION DETAILS**

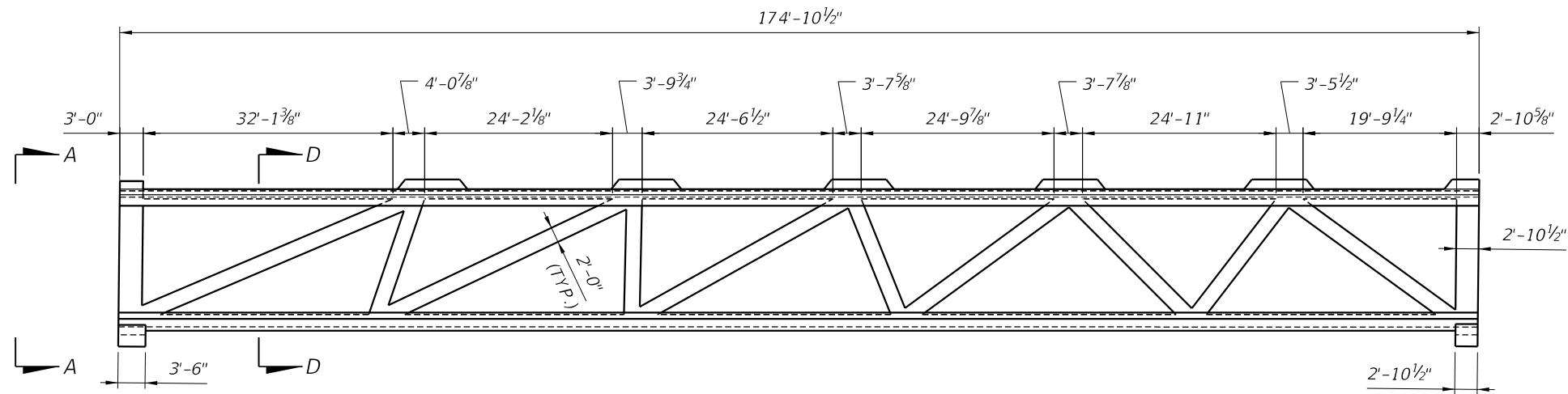
PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

SUSERS SDATES STIMES SFILES

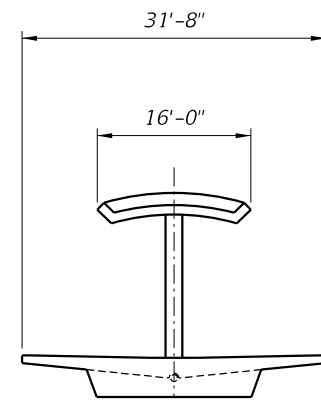
SHEET NO.
<b>B-8</b>

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

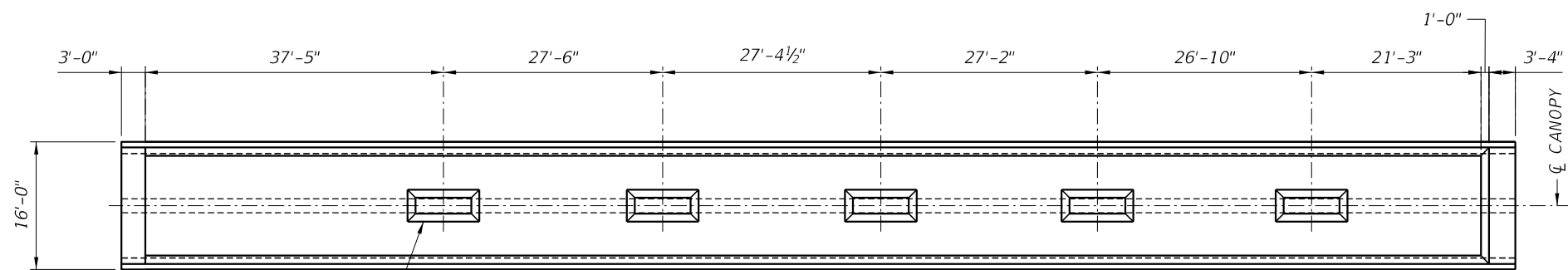




ELEVATION

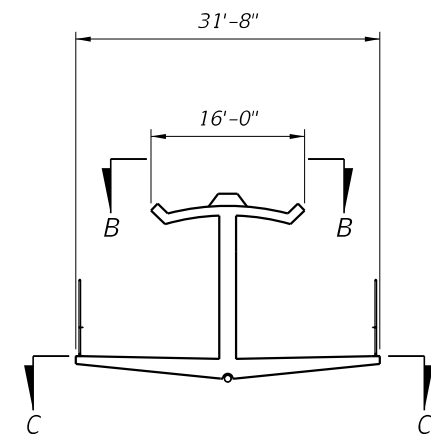


VIEW A-A

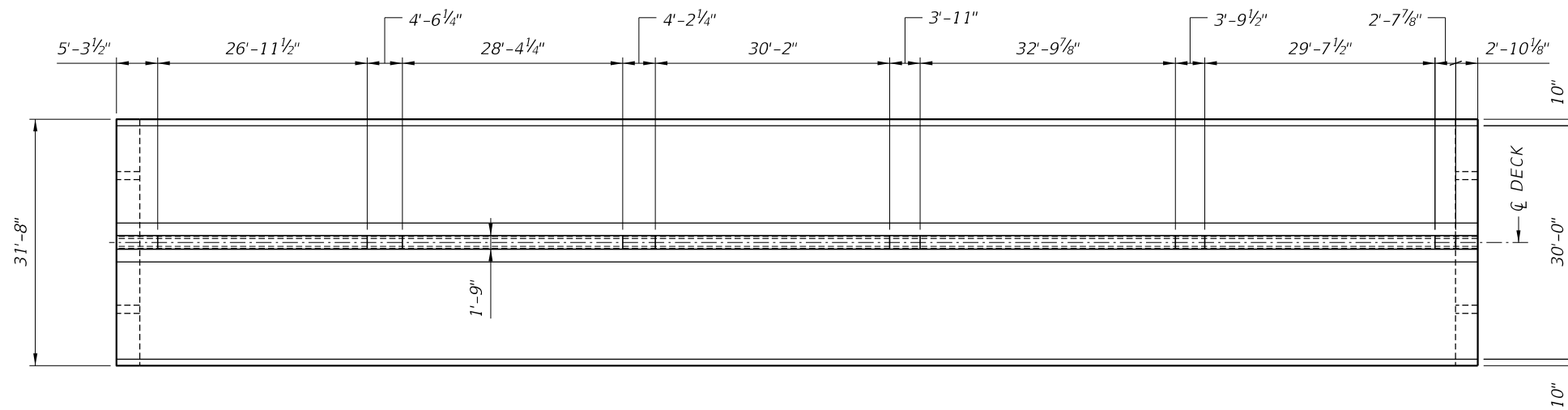


P.T. BAR ANCHOR  
BLISTER (TYP.)

CANOPY - VIEW B-B



SECTION D-D

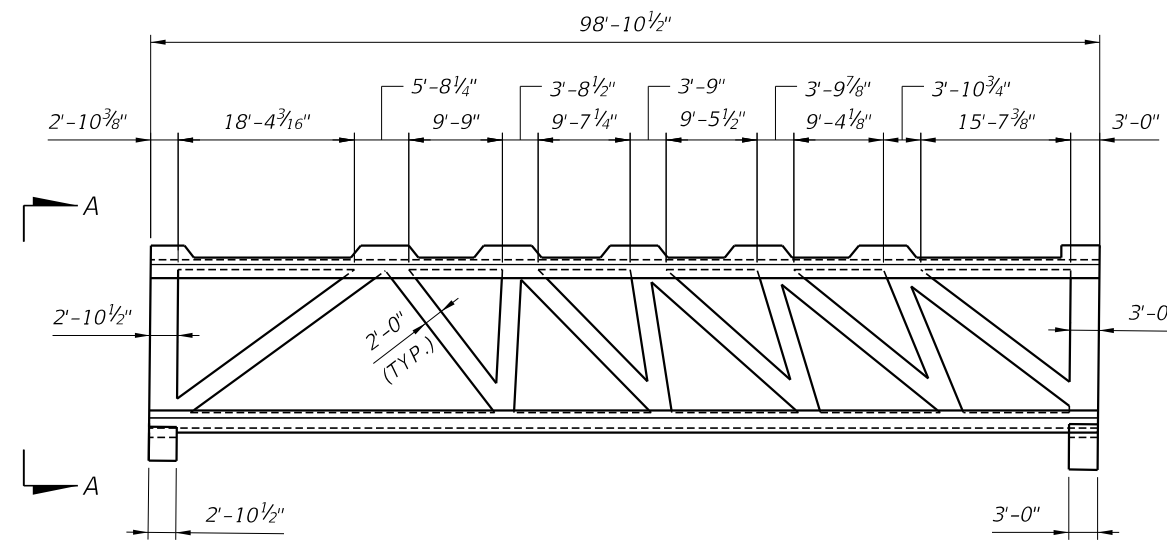


DECK - SECTION C-C

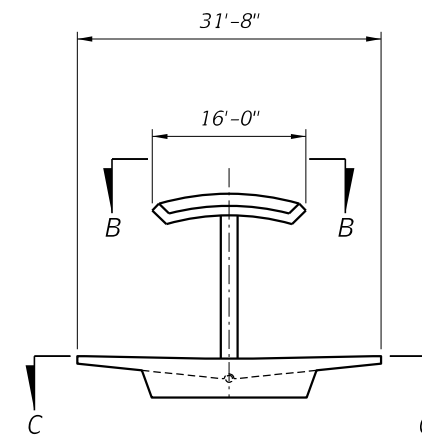
NOTES:

1. DIMENSIONS ARE SYMMETRICAL ABOUT  $\bar{C}$  TRUSS, UNLESS OTHERWISE NOTED.
2. APPROXIMATE LIFTING WEIGHT OF TRUSS SYSTEM = 915 TONS.
3. FOR LONGITUDINAL POST-TENSIONING SIZES AND LOCATIONS, SEE LONGITUDINAL POST-TENSIONING I SHEET.

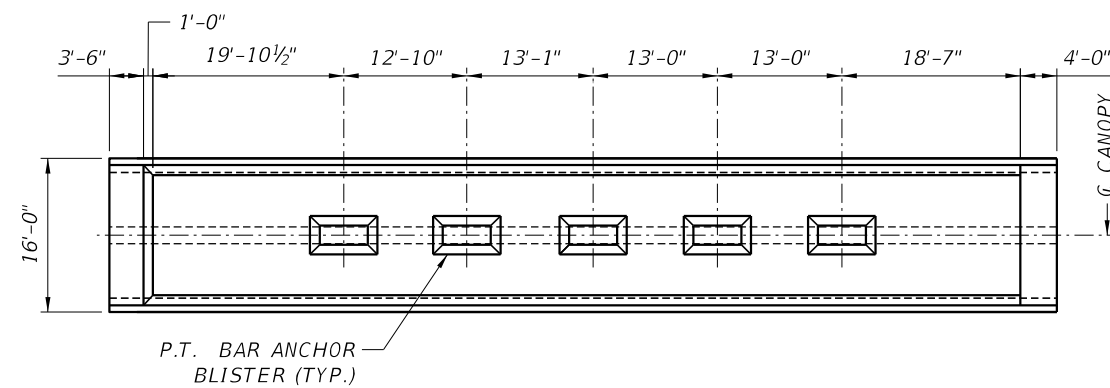
REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:			
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 ROAD NO. COUNTY PROJECT ID MIAMI - DADE BT - 904			TRUSS SYSTEM MAINSPAN LAYOUT UNIVERSITYCITY PROSPERITY PROJECT			



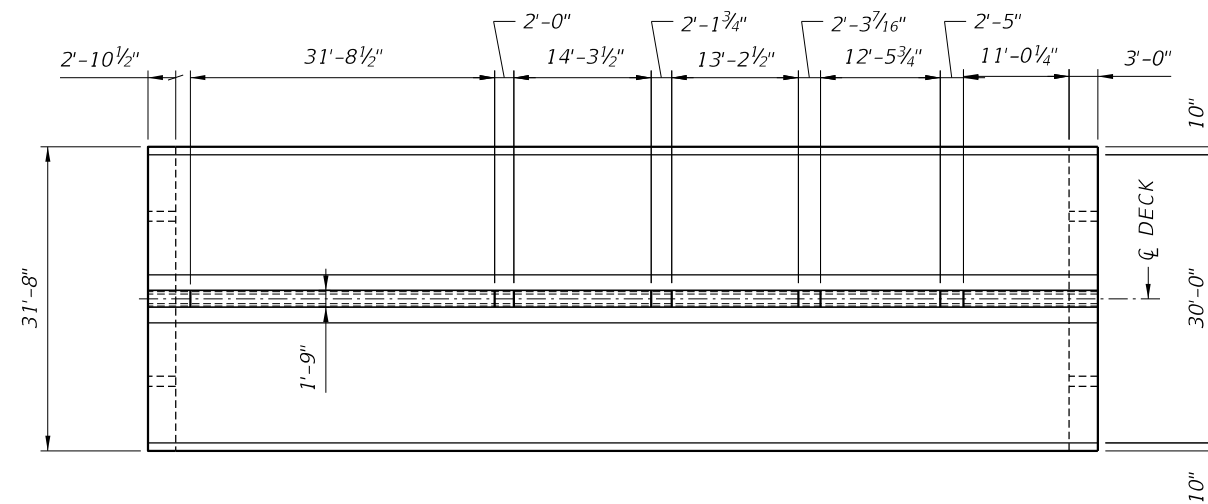
ELEVATION



VIEW A-A






CANOPY - VIEW B-B



DECK - SECTION C-C

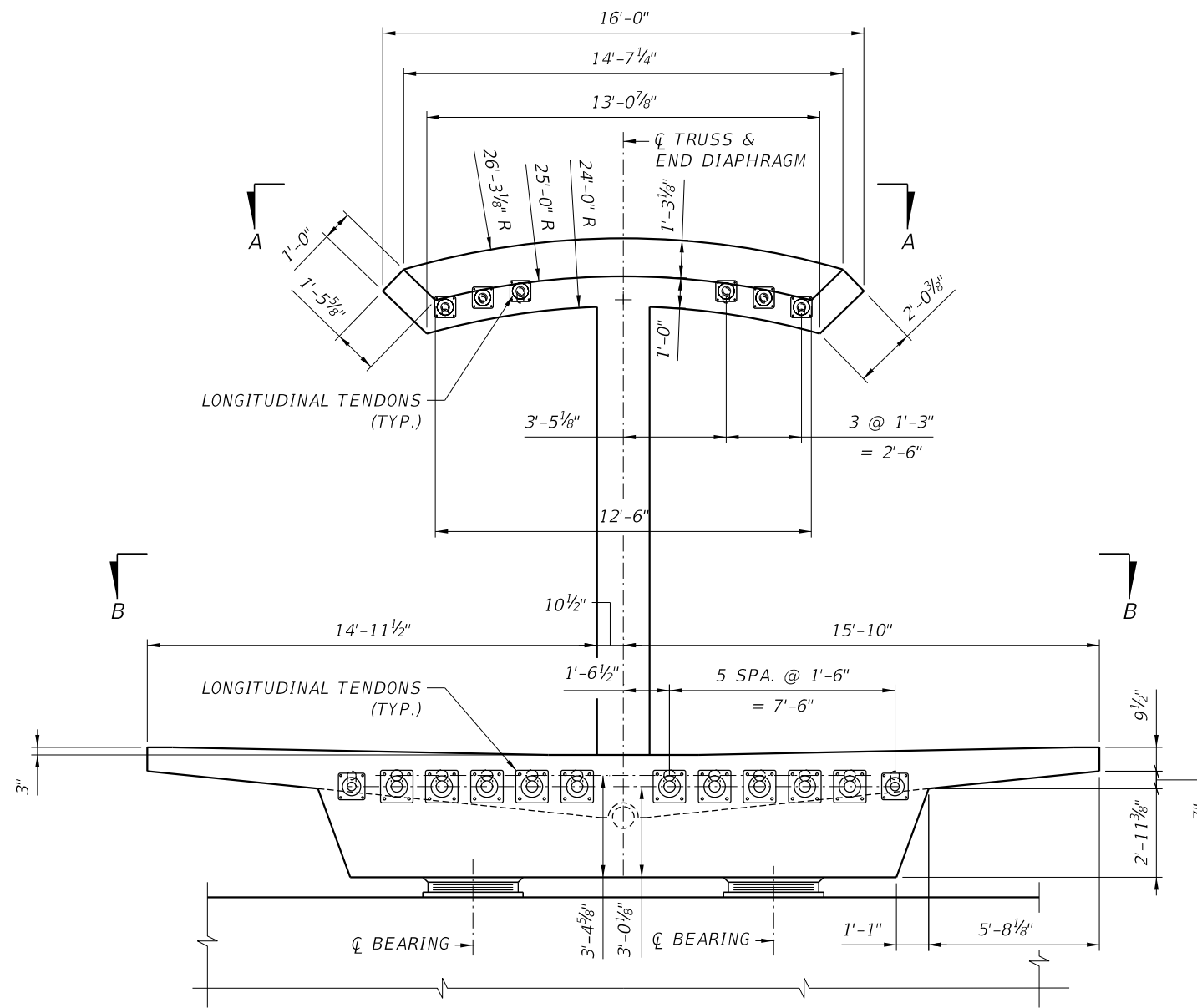
NOTES:

1. DIMENSIONS ARE SYMMETRICAL ABOUT C TRUSS, UNLESS OTHERWISE NOTED.
2. APPROXIMATE LIFTING WEIGHT OF TRUSS SYSTEM = 565 TONS. (IF PRECAST)
3. FOR LONGITUDINAL POST-TENSIONING SIZES AND LOCATIONS, SEE LONGITUDINAL POST-TENSIONING II SHEET.

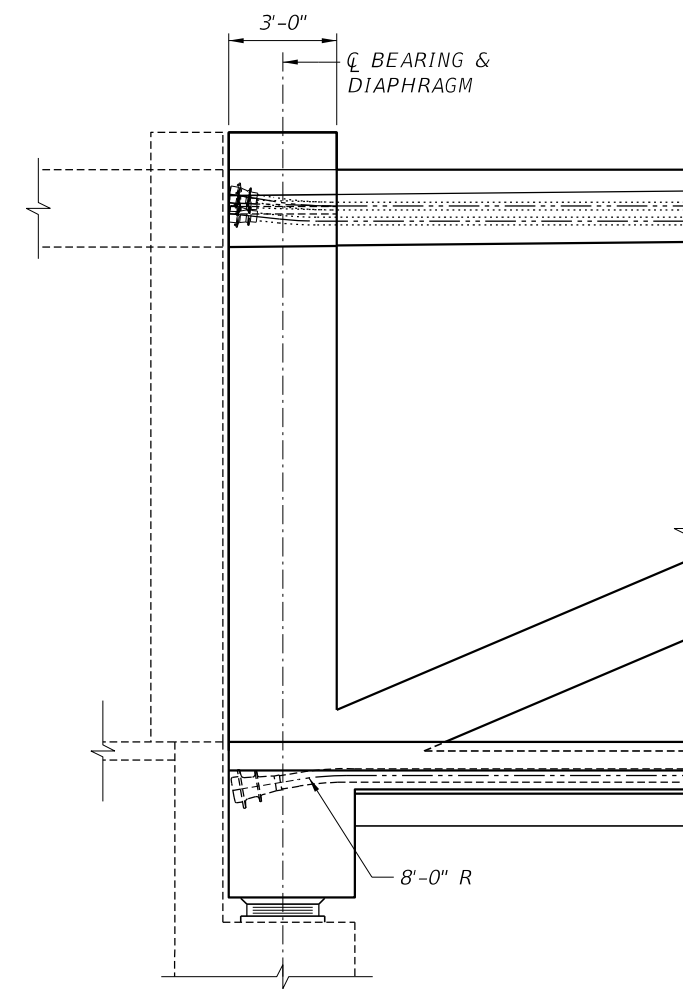
REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 			TRUSS SYSTEM BACKSPAN LAYOUT		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT			
							MIAMI - DADE	BT - 904		UNIVERSITYCITY PROSPERITY PROJECT			
											SHEET NO.	B-10	

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

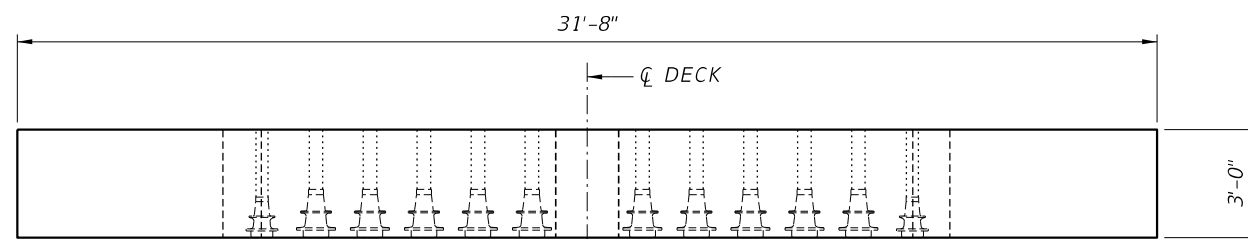




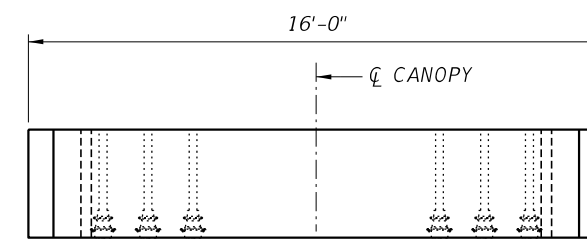
VIEW C-C



ELEVATION



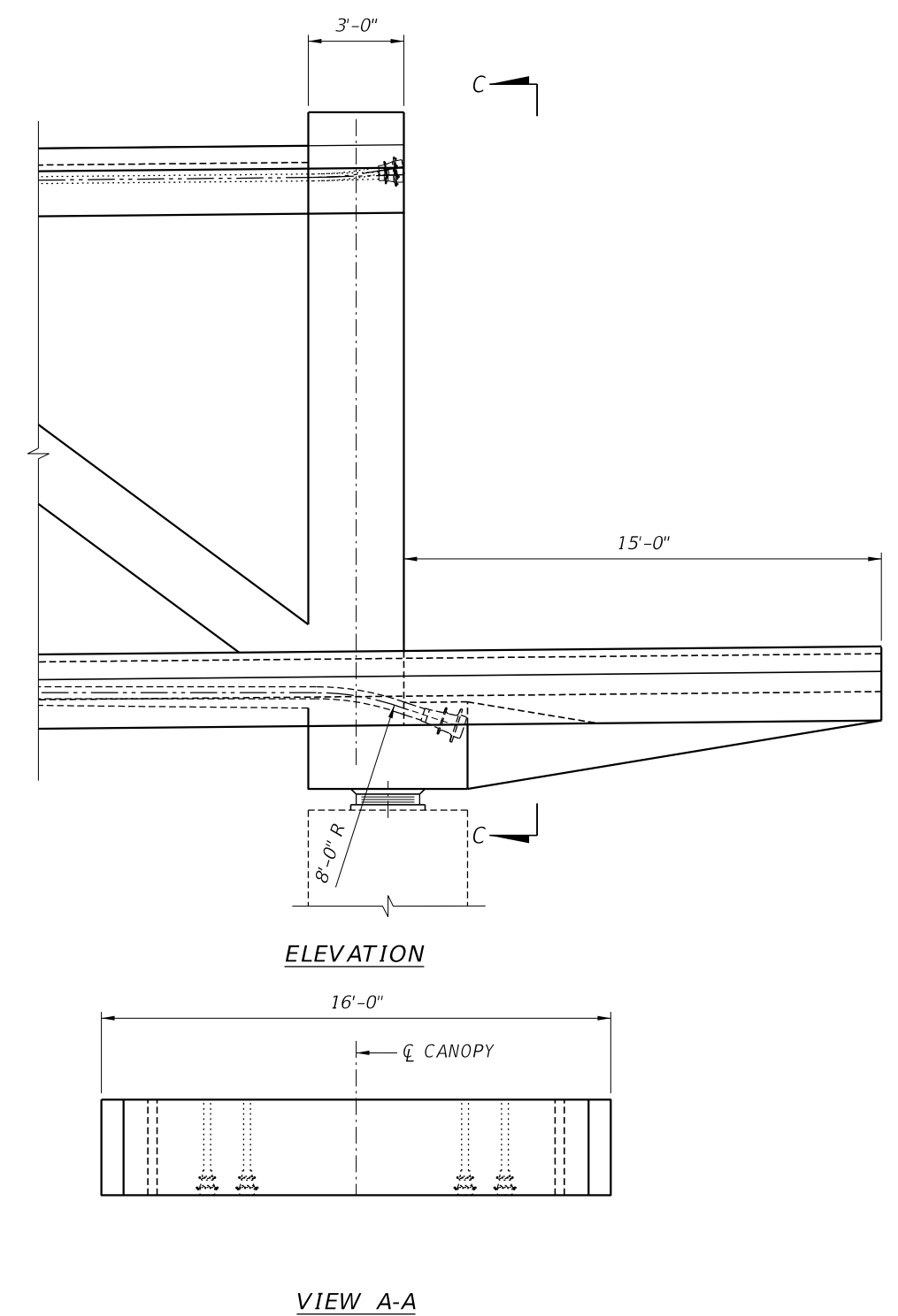
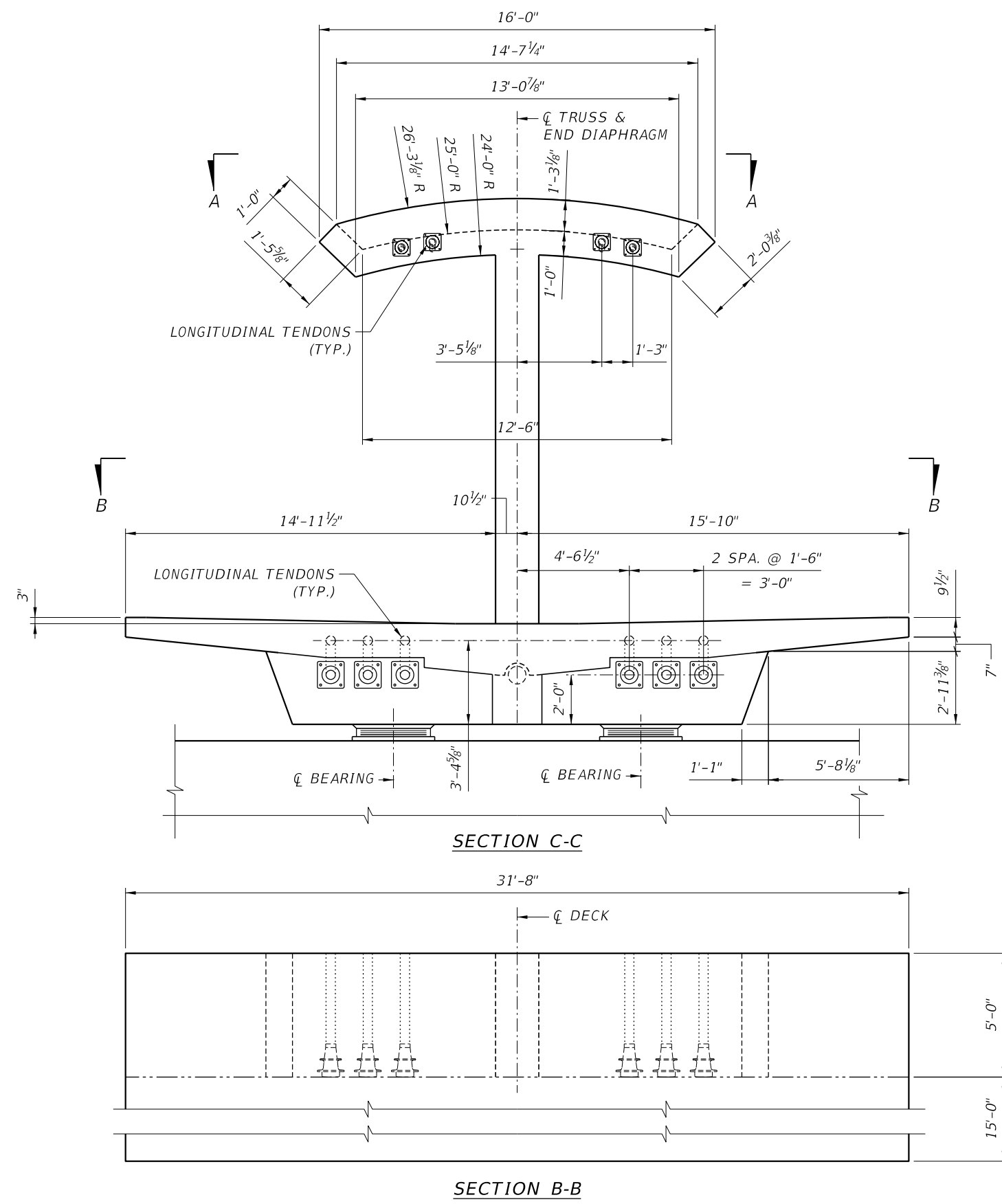
SECTION B-B



VIEW A-A

REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 DESIGN-BUILD TEAM			END DIAPHRAGM DIMENSIONS I		
						 FLORIDA INTERNATIONAL UNIVERSITY			ROAD NO.			PROJECT ID		
						MIAMI - DADE			BT - 904			UNIVERSITYCITY PROSPERITY PROJECT		
												SHEET NO. <b>B-11</b>		

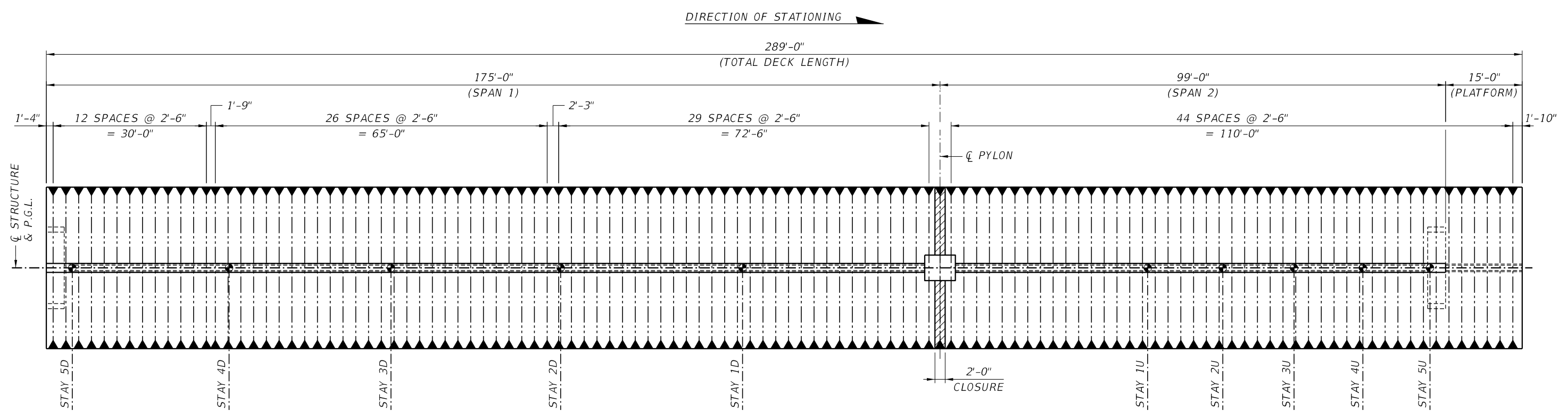
PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



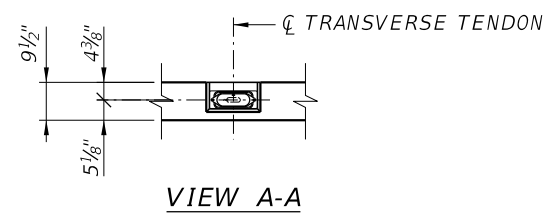
REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 DESIGN-BUILD TEAM			END DIAPHRAGM DIMENSIONS II	
						 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 DESIGN-BUILD TEAM			END DIAPHRAGM DIMENSIONS II	
						ROAD NO. COUNTY PROJECT ID		MIAMI - DADE BT - 904		UNIVERSITYCITY PROSPERITY PROJECT		
						SUSERS		SDATES STIMES SFILES		SHEET NO. <b>B-12</b>		



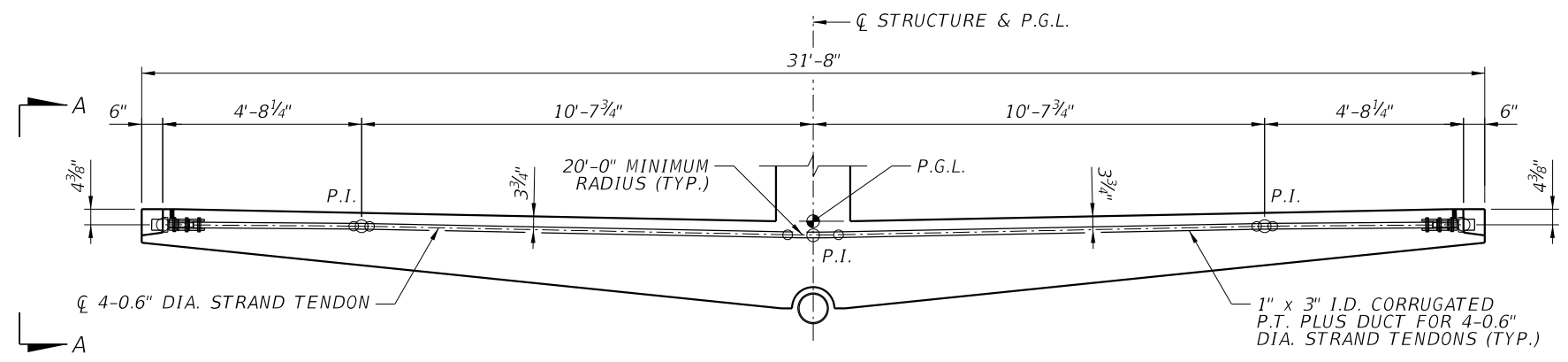
PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



**PLAN**  
(4-0.6" DIA. - TRANSVERSE TENDON SPACING)



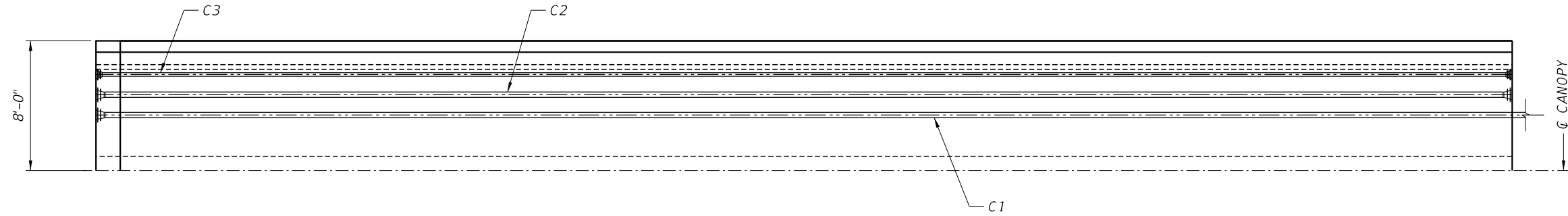
**VIEW A-A**



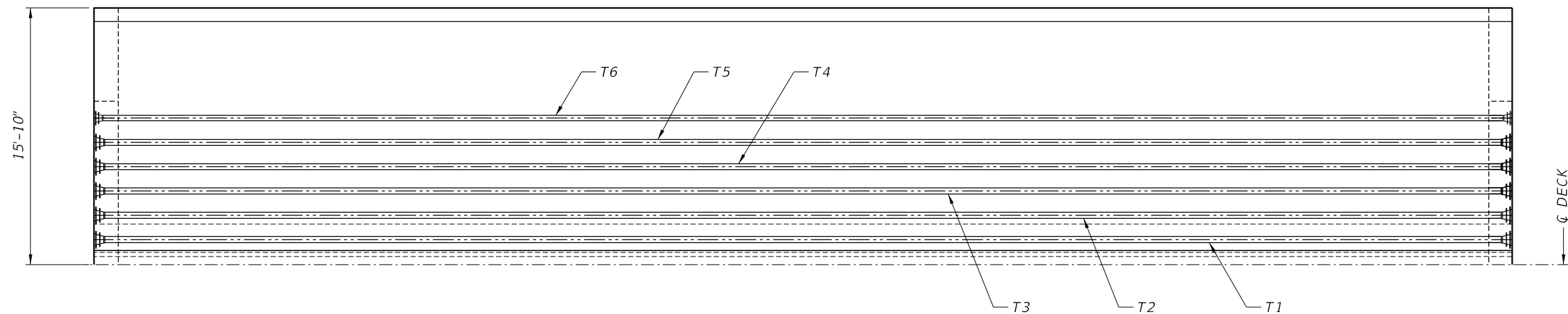
**CROSS-SECTION**  
(TRANSVERSE TENDON PROFILE)

- NOTES:**
1. USE 4-0.6" DIA. STRAND TENDONS FOR TRANSVERSE POST-TENSIONING.
  2. THE STRESSING SEQUENCE FOR THE 4 STRAND TRANSVERSE TENDONS SHALL BE .
  3. STRESSING FORCE SHALL BE 46 KIPS PER STRAND.

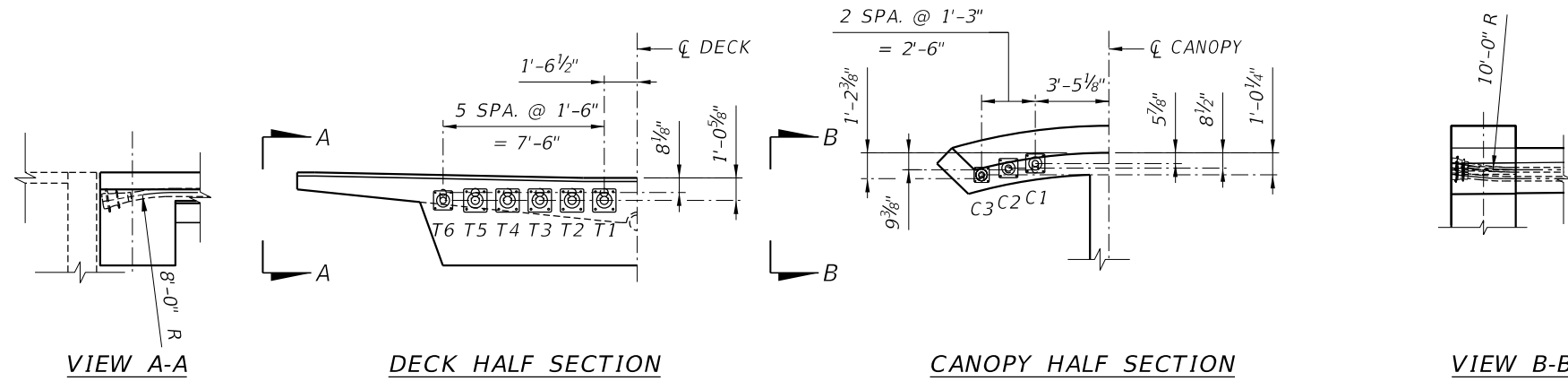
REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 ROAD NO. COUNTY PROJECT ID			DECK TRANSVERSE POST-TENSIONING LAYOUT		
						 FLORIDA INTERNATIONAL UNIVERSITY			PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT			SHEET NO. <b>B-13</b>		
						WDP			MIAMI - DADE BT - 904			SFILES		



CANOPY - PLAN VIEW



DECK - PLAN VIEW



TENDON SIZES	
DESIGNATION	SIZE
T1-T5	19x0.6"
T6	12x0.6"
C1-C2	12x0.6"
C3	7x0.6"

NOTES:  
1. DIMENSIONS ARE SYMMETRICAL ABOUT ϕ TRUSS, UNLESS OTHERWISE NOTED.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: CFR  
 CHECKED BY: EDL  
 DESIGNED BY: EDL  
 CHECKED BY: MF

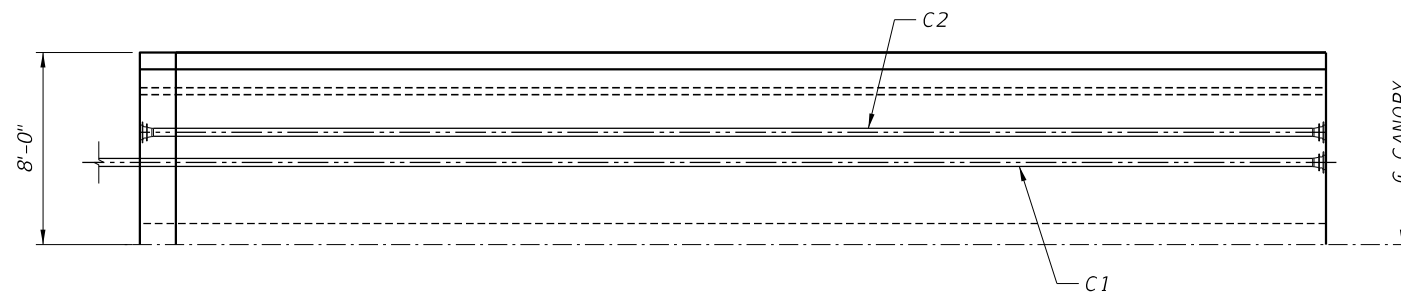
ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT - 904

SHEET TITLE: LONGITUDINAL POST-TENSIONING DETAILS I  
 PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

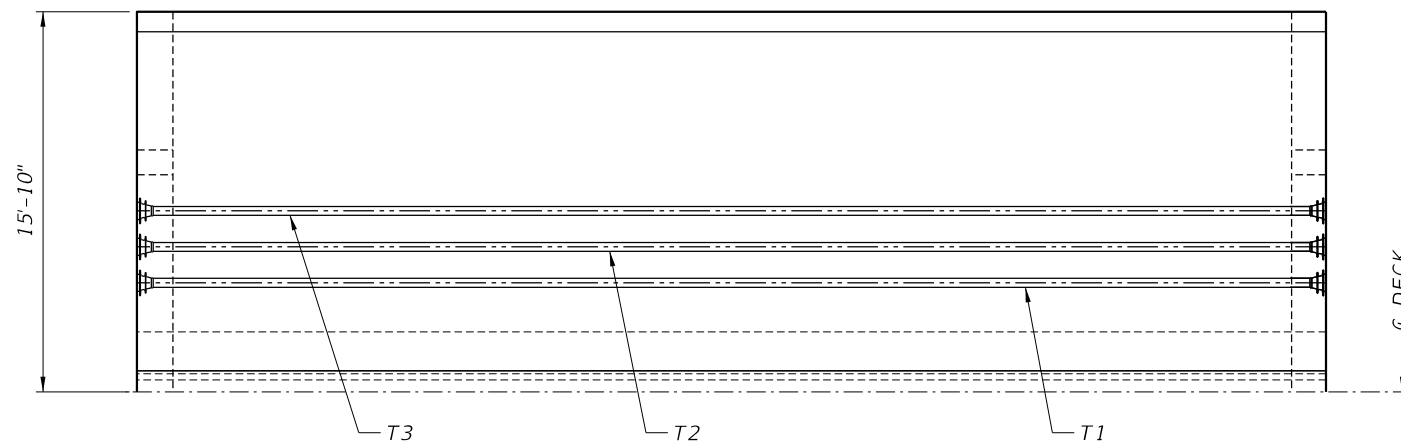
SHEET NO.  
**B-14**

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015

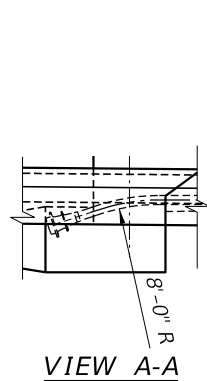




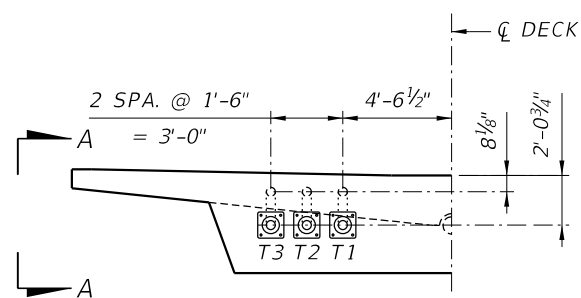
CANOPY - PLAN VIEW



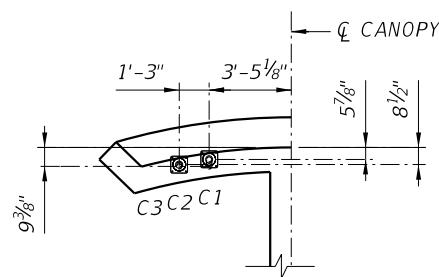
DECK - PLAN VIEW



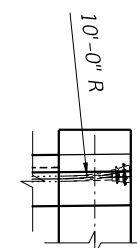
VIEW A-A



DECK HALF SECTION



CANOPY HALF SECTION

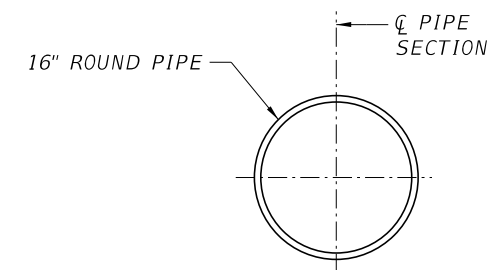
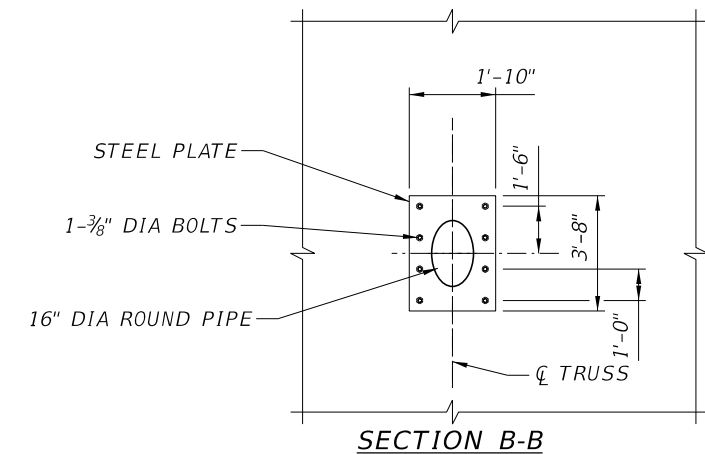
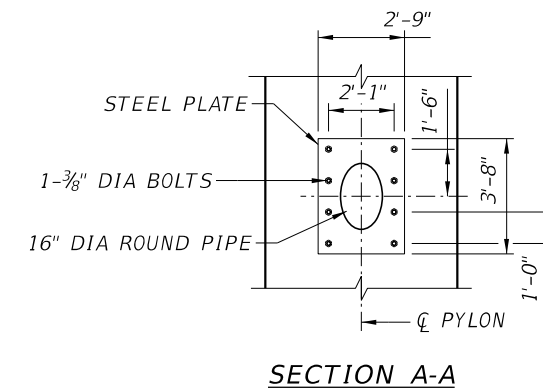
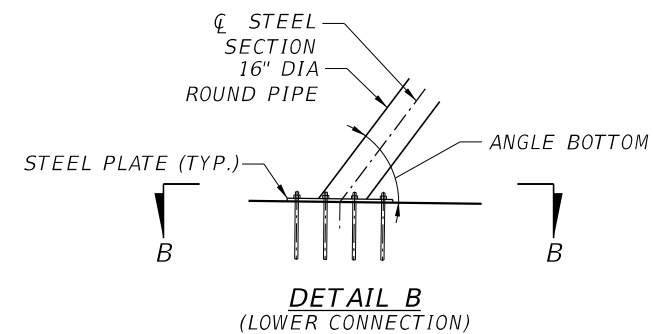
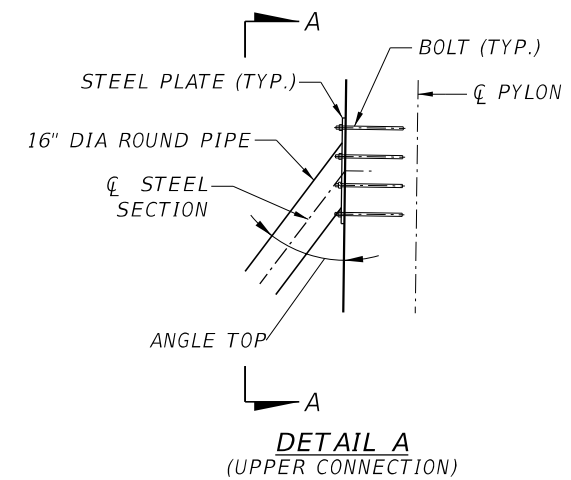
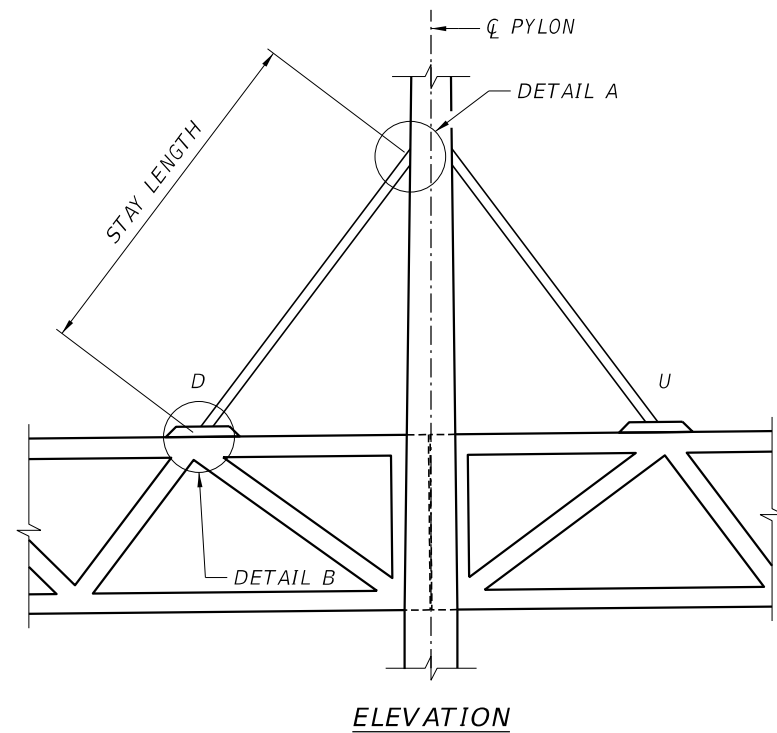


VIEW B-B

TENDON SIZES	
DESIGNATION	SIZE
T1-T3	19x0.6"
C1-C2	12x0.6"


**NOTES:**  
 1. DIMENSIONS ARE SYMMETRICAL ABOUT CL TRUSS, UNLESS OTHERWISE NOTED.

REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 DESIGN-BUILD TEAM			LONGITUDINAL POST-TENSIONING DETAILS II					
						 FLORIDA INTERNATIONAL UNIVERSITY			ROAD NO.			COUNTY			PROJECT ID		
						MIAMI - DADE			BT - 904			UNIVERSITYCITY PROSPERITY PROJECT					
												PROJECT NAME:			SHEET NO.		
												UNIVERSITYCITY PROSPERITY PROJECT			B-15		
						SUSERS			SDATES			STIMES			SFILES		






STAY GEOMETRY			
STAY	STAY LENGTH	ANGLE TOP	ANGLE BOTTOM
1U	39'-3 <sup>7</sup> / <sub>8</sub> "	37.77°	51.92°
2U	52'-6 <sup>7</sup> / <sub>8</sub> "	43.29°	46.39°
3U	65'-11 <sup>1</sup> / <sub>4</sub> "	46.75°	42.94°
4U	79'-4 <sup>5</sup> / <sub>8</sub> "	49.10°	40.59°
5U	92'-10 <sup>7</sup> / <sub>8</sub> "	50.79°	38.89°
1D	39'-8 <sup>3</sup> / <sub>8</sub> "	37.33°	51.22°
2D	64'-9 <sup>3</sup> / <sub>8</sub> "	51.86°	36.68°
3D	91'-3 <sup>1</sup> / <sub>4</sub> "	58.55°	29.99°
4D	118' - 4 <sup>3</sup> / <sub>8</sub> "	62.30°	26.25°
5D	145'-9"	64.67°	23.88°

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: LTC  
 CHECKED BY: EDL  
 DESIGNED BY: EDL  
 CHECKED BY: MF

ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT - 904

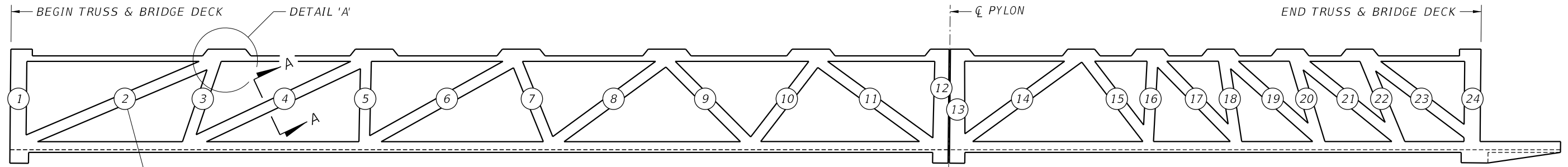
SHEET TITLE: STAY DETAILS

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

SHEET NO. B-16



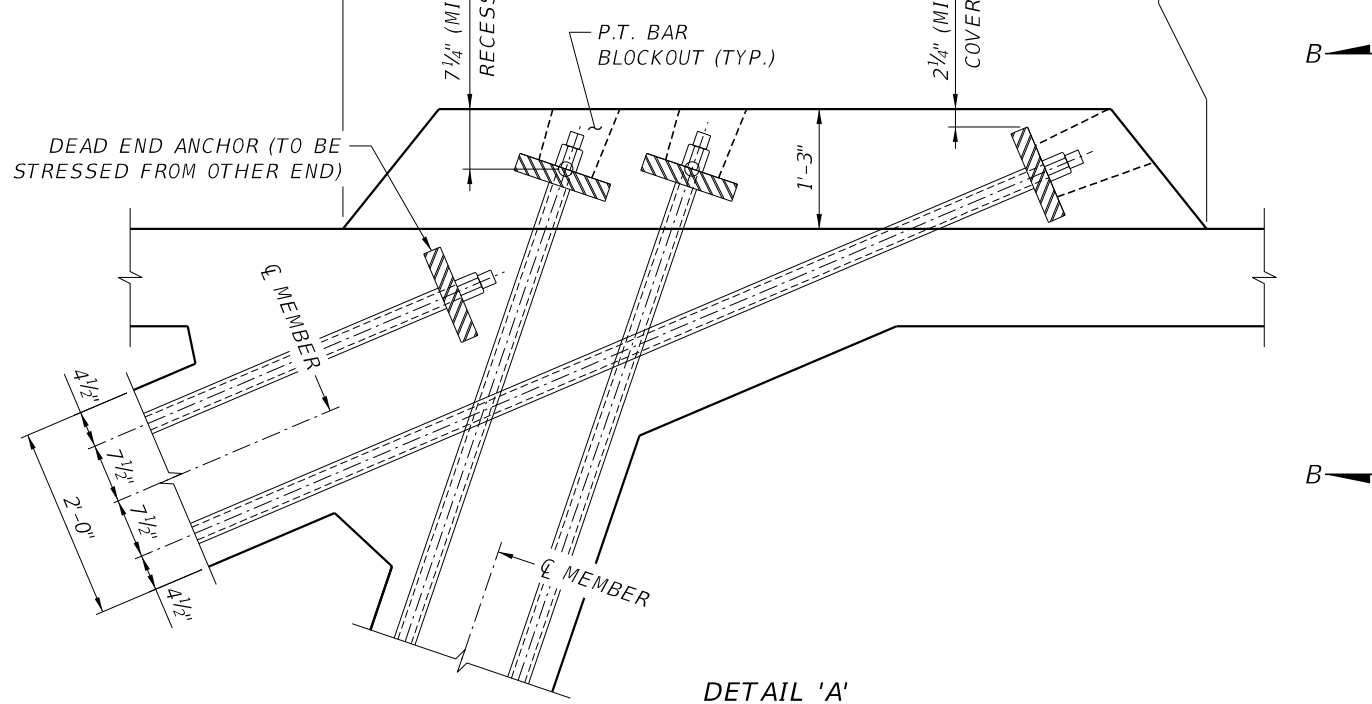
DIRECTION OF STATIONING



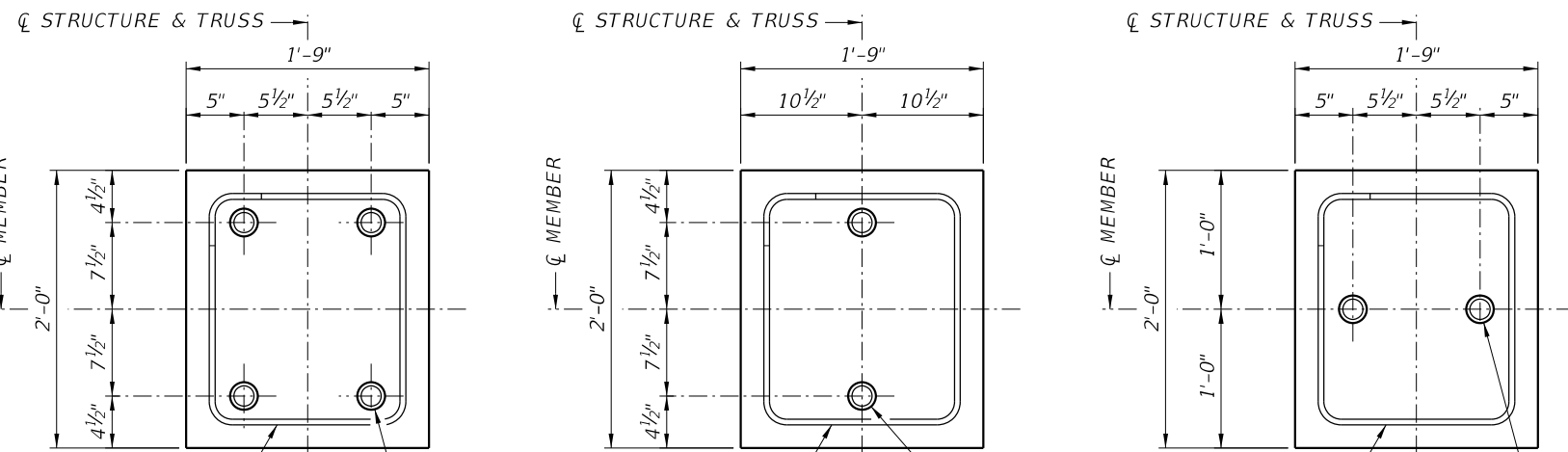
MEMBER NO. (TYP.)

9'-0" \* ANCHOR BLISTER

ELEVATION (COMBINED TRUSSES)



DETAIL 'A'



#4 BAR (TYP.) 1 3/4" P.T. BAR & DUCT (TYP.)

SECTION A-A (TYPE A MEMBER)

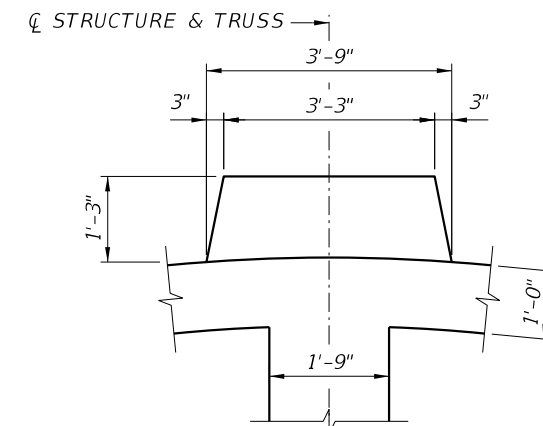
#4 BAR (TYP.) 1 3/4" P.T. BAR & DUCT (TYP.)

SECTION A-A (TYPE B MEMBER)

#4 BAR (TYP.) 1 3/4" P.T. BAR & DUCT (TYP.)

SECTION A-A (TYPE C MEMBER)

P.T. BAR REQUIREMENTS			
MEMBER NO.	MEMBER TYPE	NO. P.T. BARS	P.T. FORCE/BAR
1	-	-	-
2	B	2	200 KIPS
3	A	4	240 KIPS
4	B	2	200 KIPS
5	C	2	200 KIPS
6	B	2	200 KIPS
7	C	2	200 KIPS
8	A	4	240 KIPS
9	-	-	-
10	A	4	280 KIPS
11	-	-	-
12	-	-	-
13	-	-	-
14	-	-	-
15	B	2	320 KIPS
16	C	2	200 KIPS
17	B	2	200 KIPS
18	C	2	200 KIPS
19	B	2	200 KIPS
20	C	2	200 KIPS
21	B	2	200 KIPS
22	C	2	200 KIPS
23	B	2	200 KIPS
24	-	-	-



SECTION B-B

NOTES:

- 1. ALL P.T. BARS ARE 1 3/4" DIA. BARS WITH AN 8"X12" ANCHOR PLATE.
- \*2. BLISTER DIMENSION VARIES WITH LOCATION.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:

**FIGG**

424 North Calhoun Street  
Tallahassee, Florida 32301

FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
CHECKED BY: MF  
DESIGNED BY: EDL  
CHECKED BY: MF

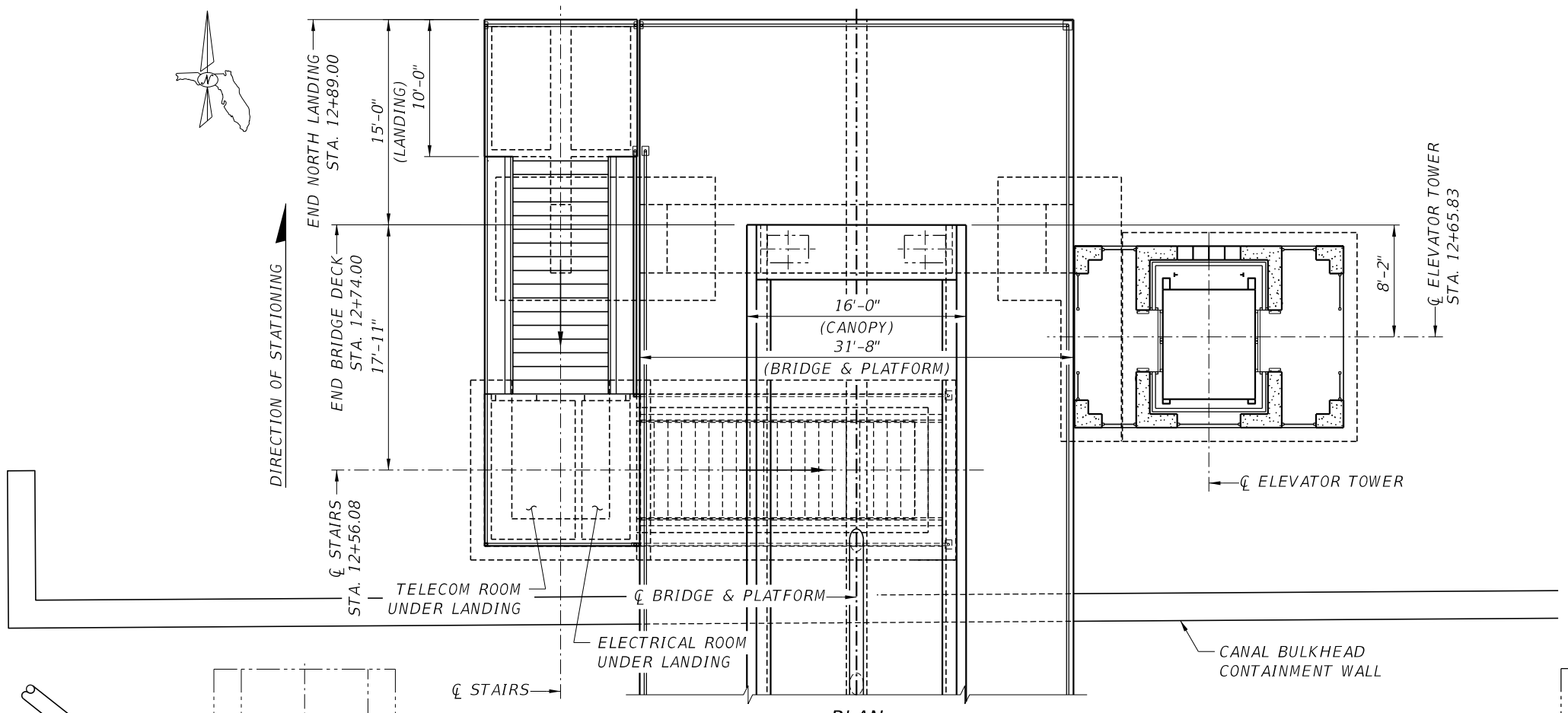
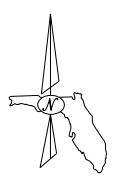
**MCM + FIGG** DESIGN-BUILD TEAM **FTU** FLORIDA INTERNATIONAL UNIVERSITY

ROAD NO. COUNTY PROJECT ID  
MIAMI - DADE BT - 904

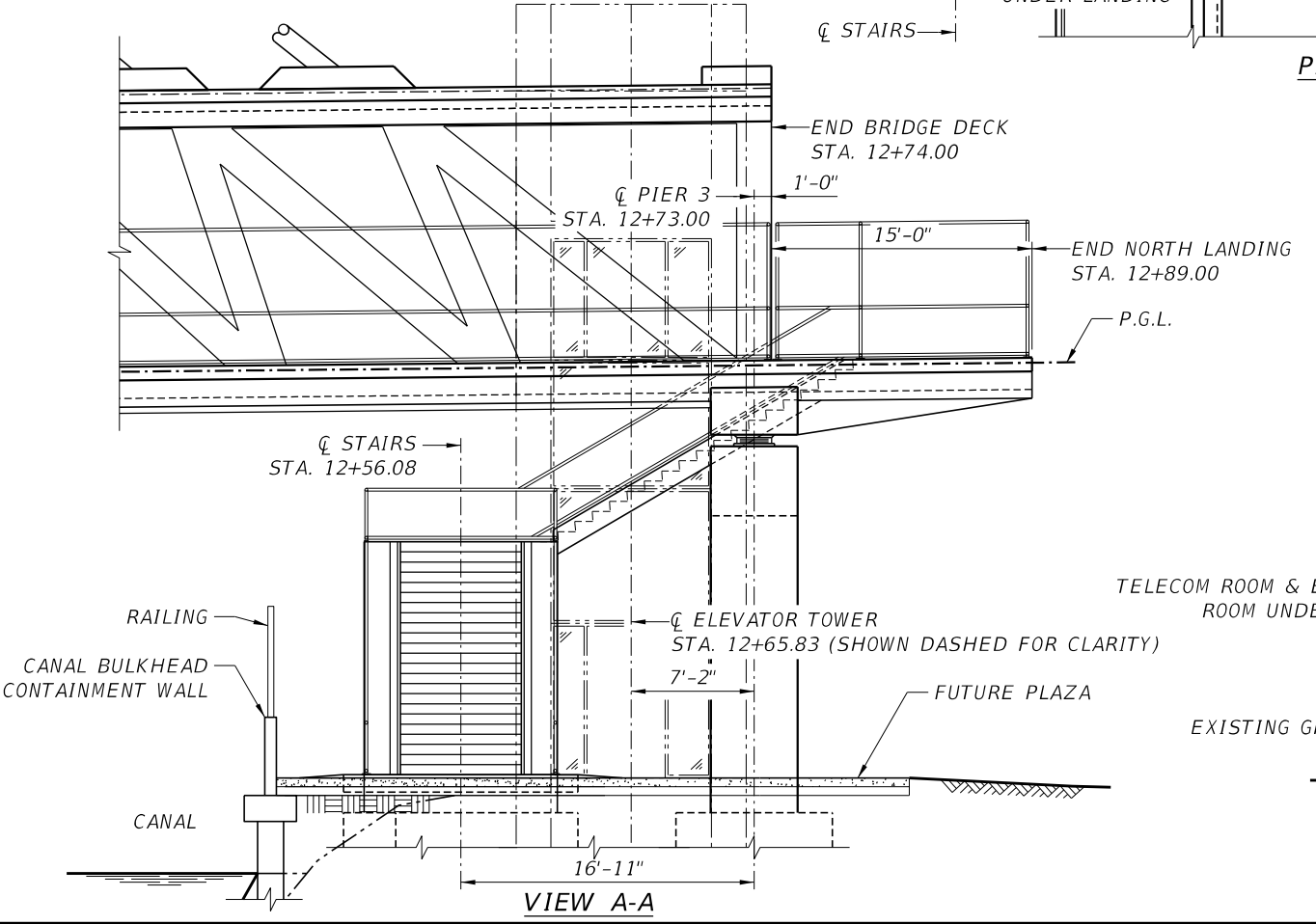
SHEET TITLE: P.T. BAR DETAILS

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

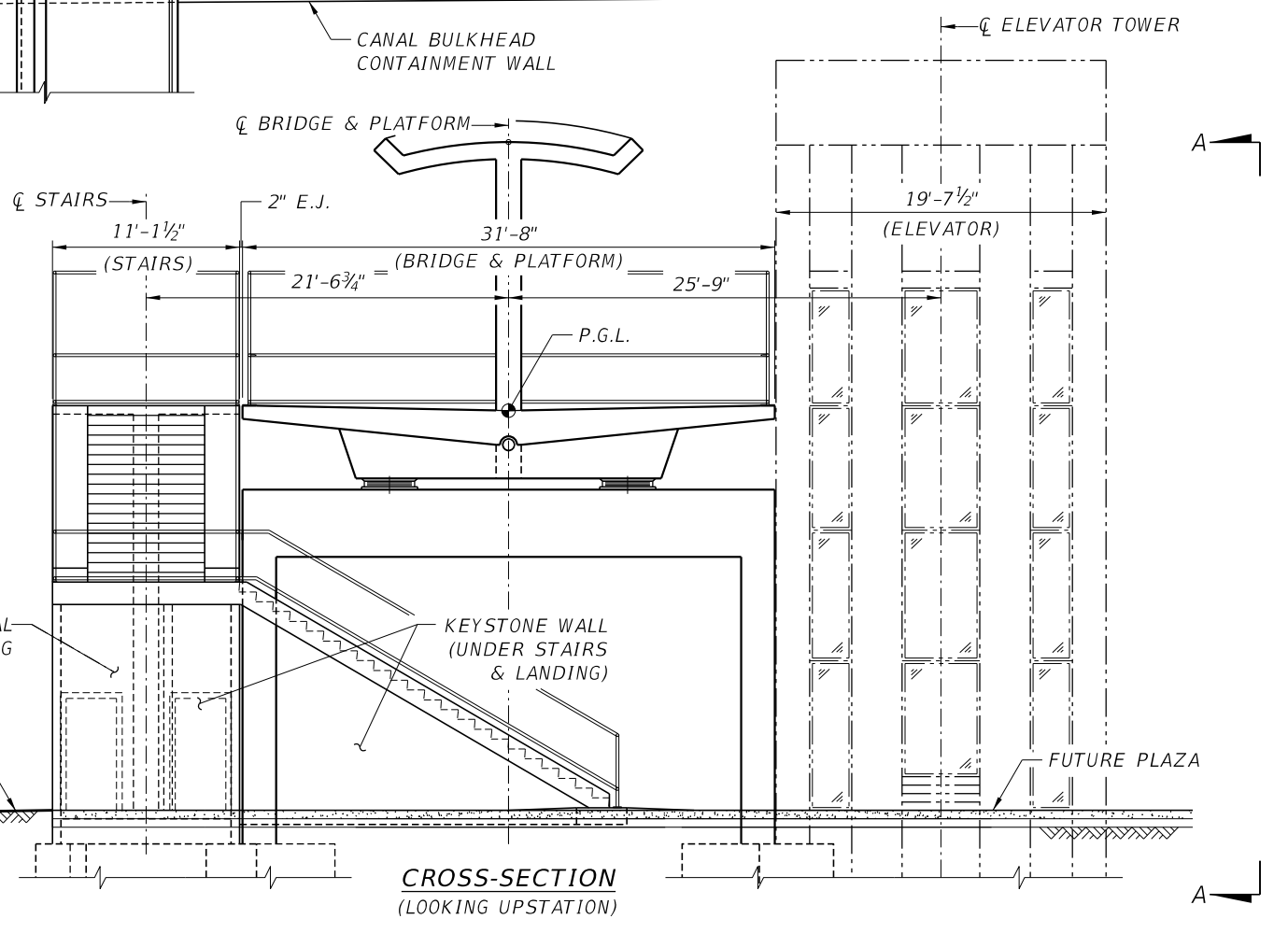
SHEET NO. **B-17**



PLAN




VIEW A-A





CROSS-SECTION  
(LOOKING UPSTATION)

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
 CHECKED BY: ENH  
 DESIGNED BY: ENH  
 CHECKED BY: MF

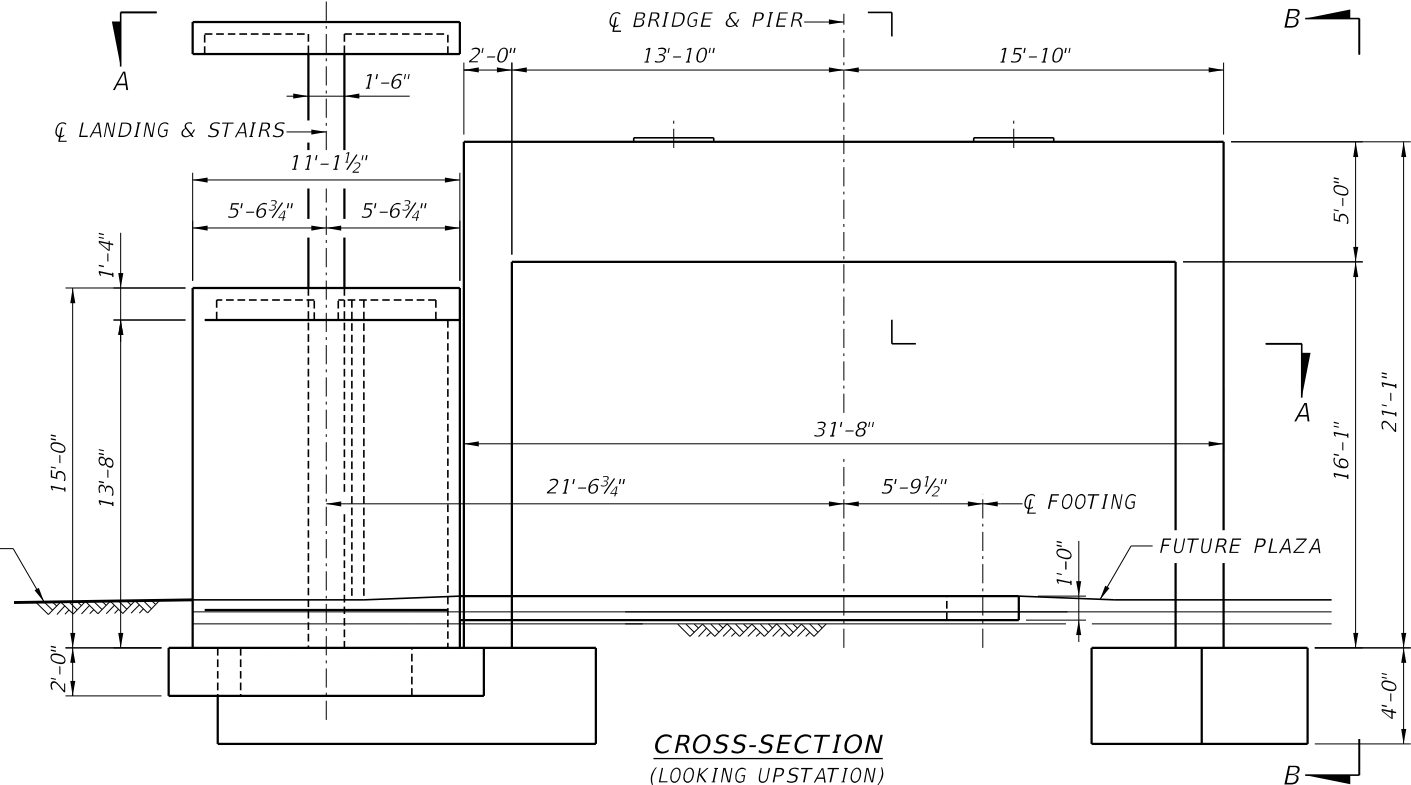
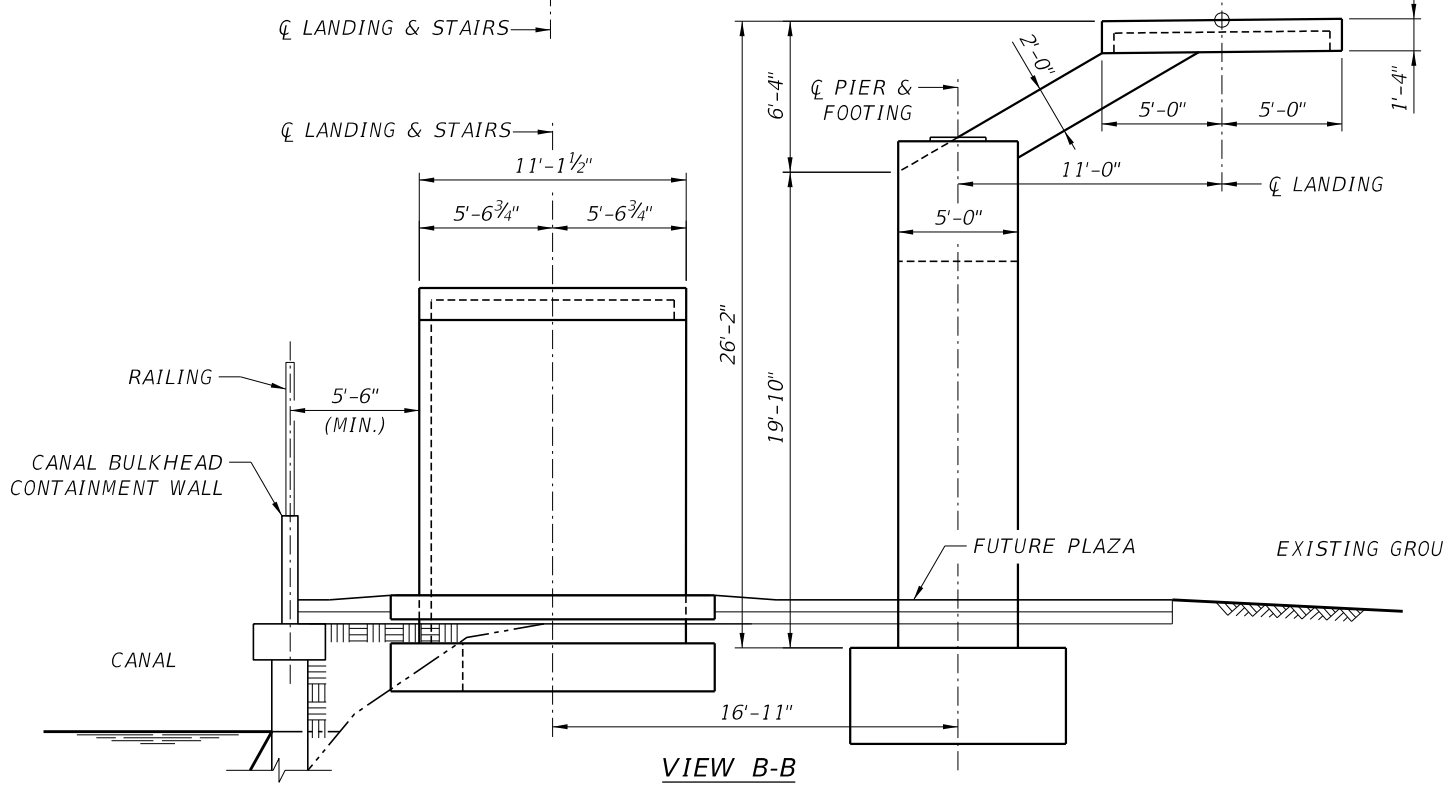
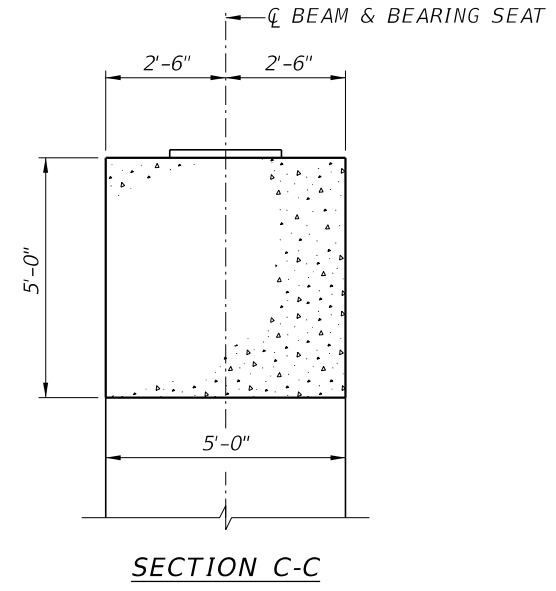
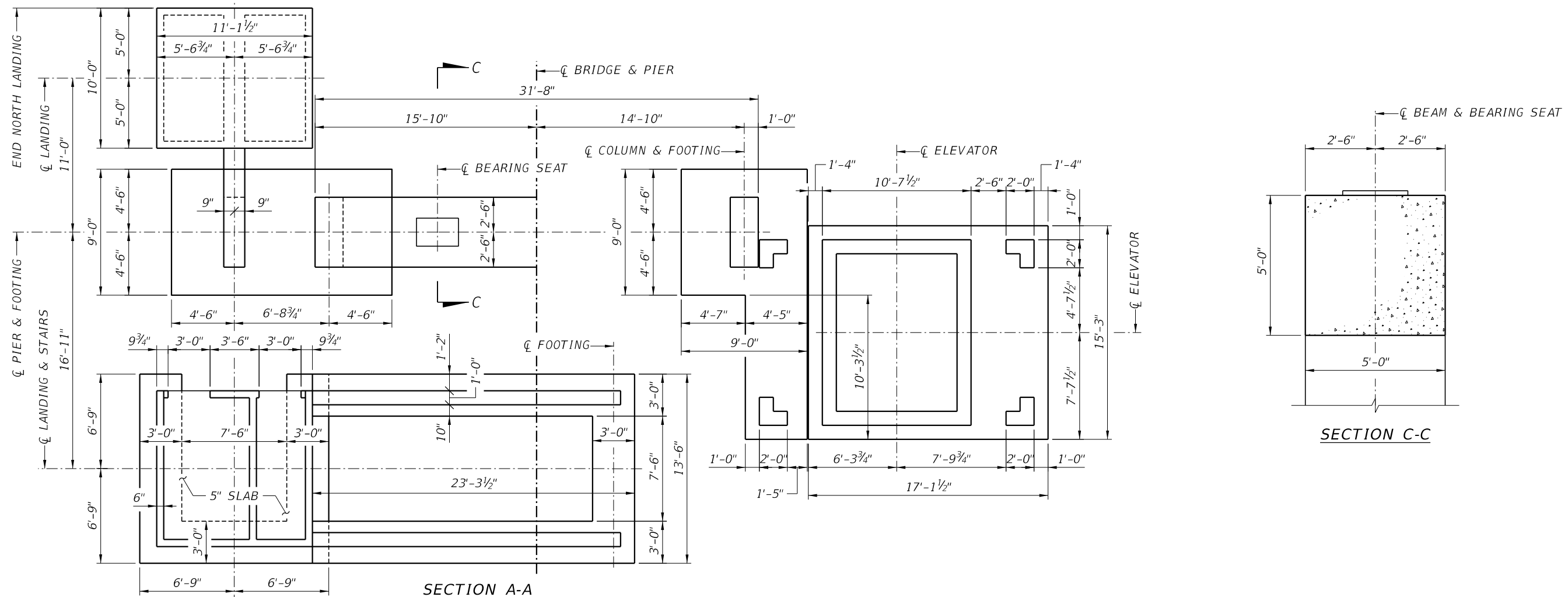
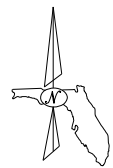
ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

SHEET TITLE: NORTH LANDING DETAILS I


PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

SHEET NO. B-18







REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: DCB  
 CHECKED BY: ENH  
 DESIGNED BY: ENH  
 CHECKED BY: MF

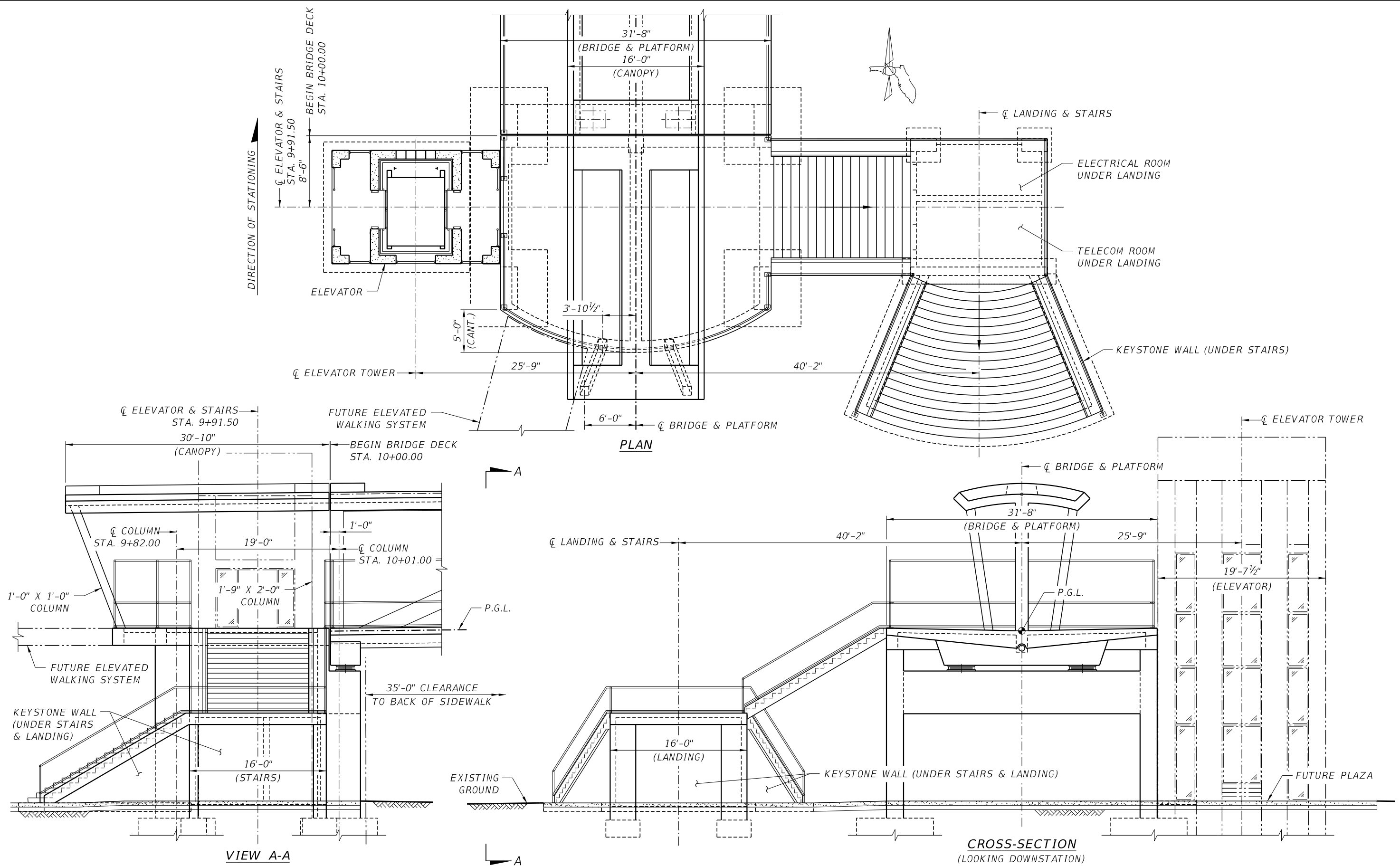
ROAD NO. COUNTY PROJECT ID  
 MIAMI - DADE BT - 904

SHEET TITLE: NORTH LANDING DETAILS II

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

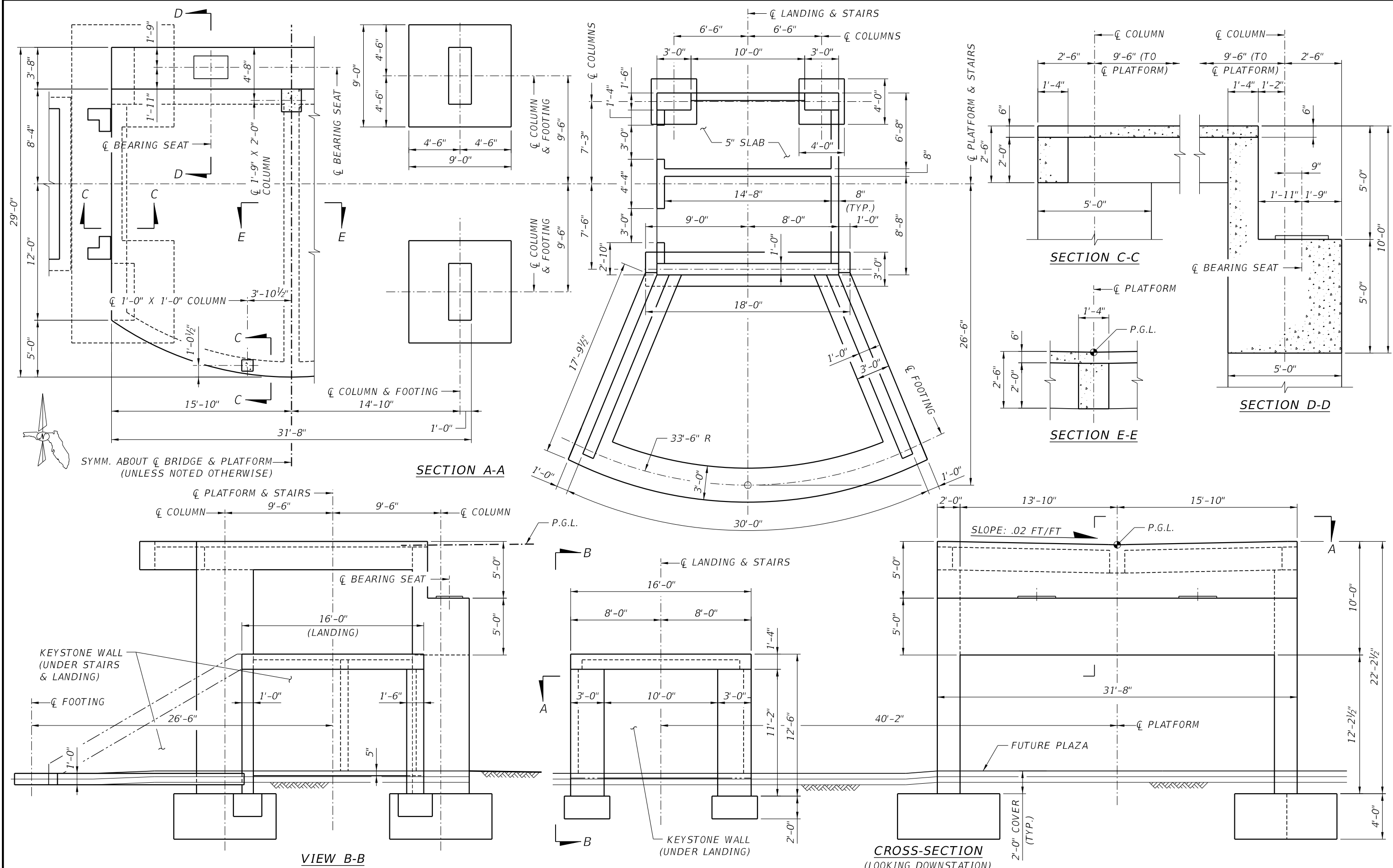
SHEET NO. B-19

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



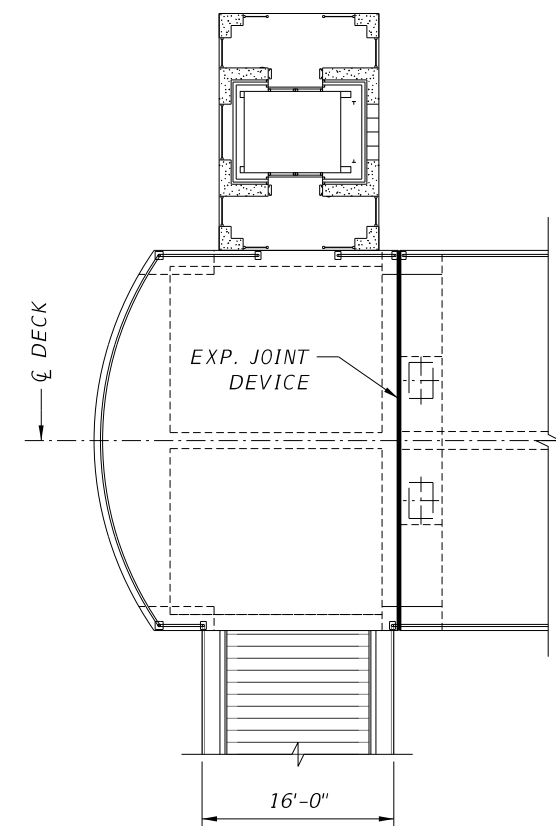
REVISIONS						ENGINEER OF RECORD: <b>FIGG</b> 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332	DRAWN BY: DCB CHECKED BY: ENH DESIGNED BY: ENH CHECKED BY: MF		SHEET TITLE: <b>SOUTH LANDING DETAILS I</b>	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>	SHEET NO. <b>B-20</b>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION						



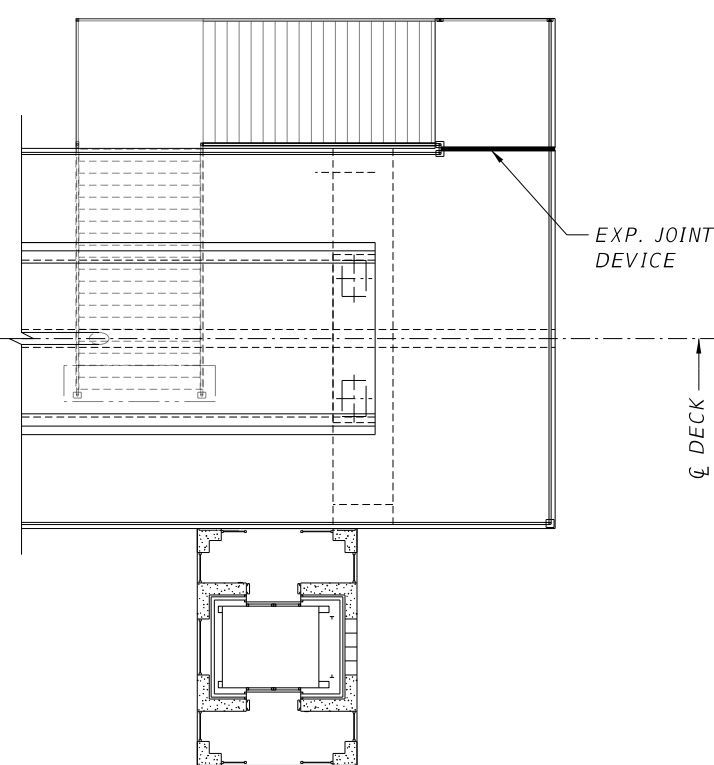


REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		  FLORIDA INTERNATIONAL UNIVERSITY			SOUTH LANDING DETAILS II	
								DCB				
								ENH				
								ENH				
								MF				
						ROAD NO. COUNTY PROJECT ID MIAMI - DADE BT - 904		PROJECT NAME:		UNIVERSITYCITY PROSPERITY PROJECT		
											SHEET NO.	B-21

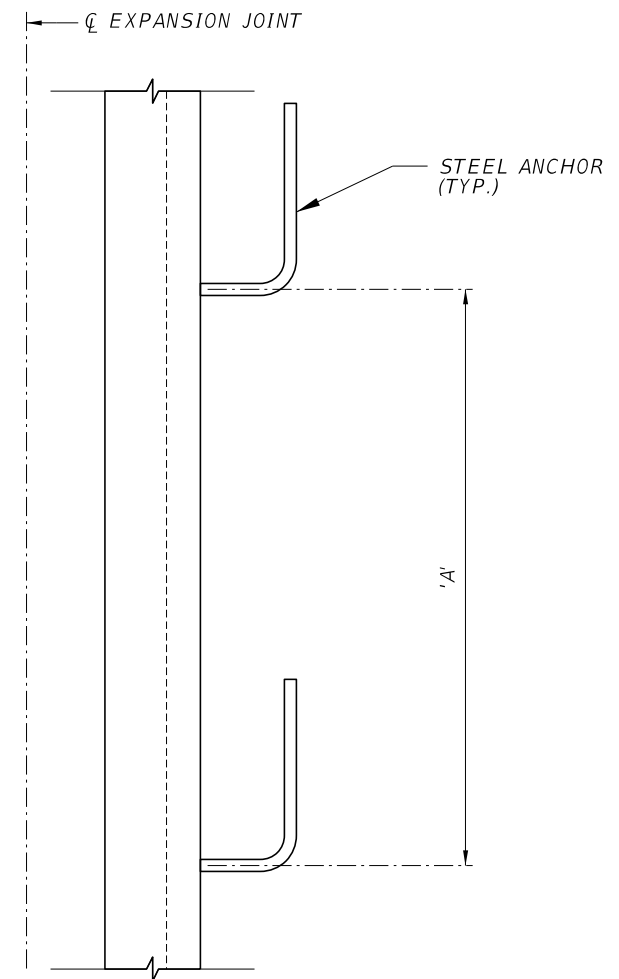
PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



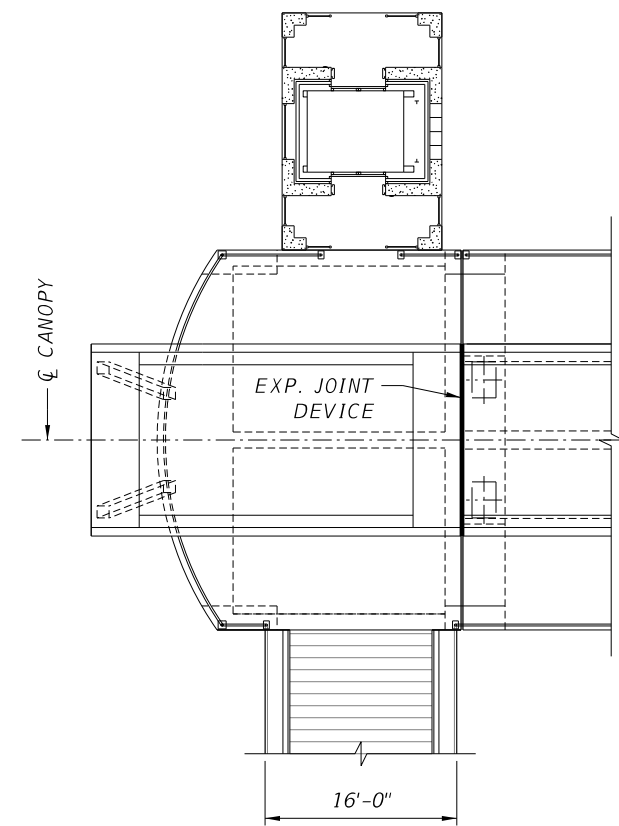
EXPANSION JOINT - SOUTH LANDING - DECK



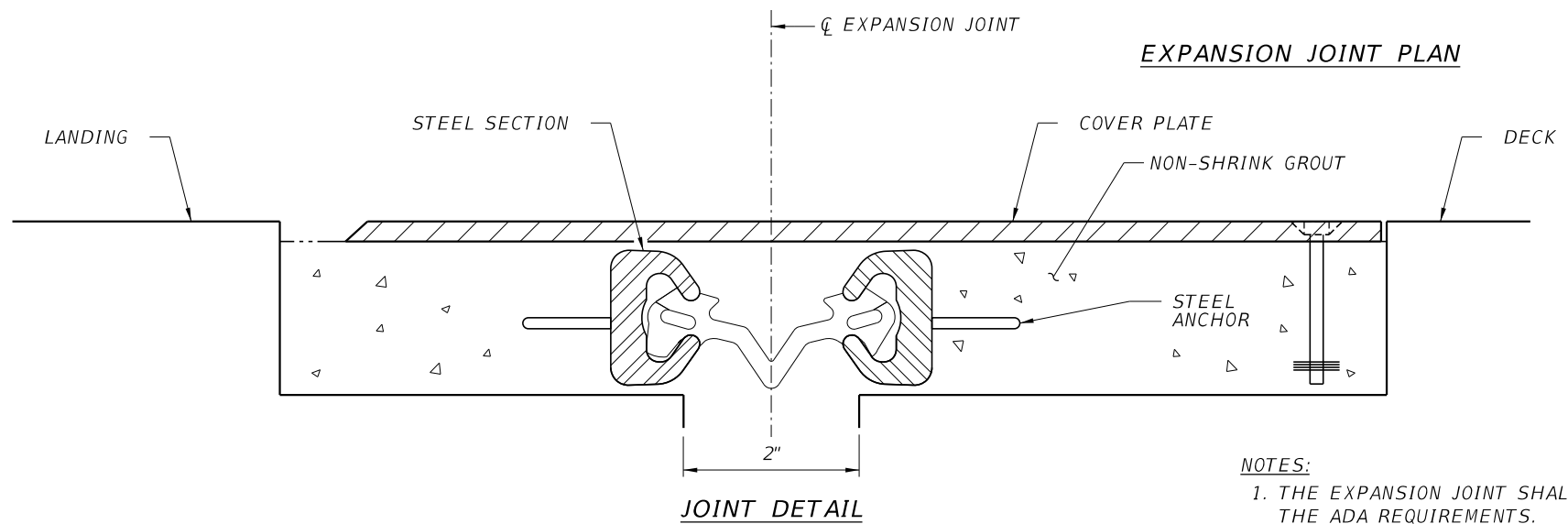
EXPANSION JOINT - NORTH LANDING



EXPANSION JOINT PLAN



EXPANSION JOINT - SOUTH LANDING - CANOPY

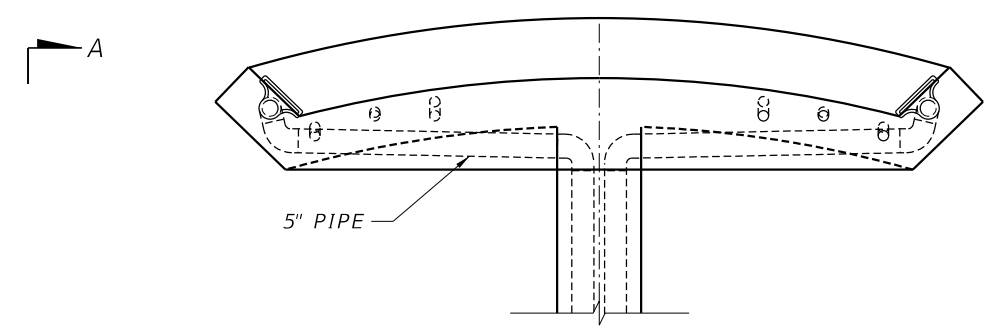


JOINT DETAIL

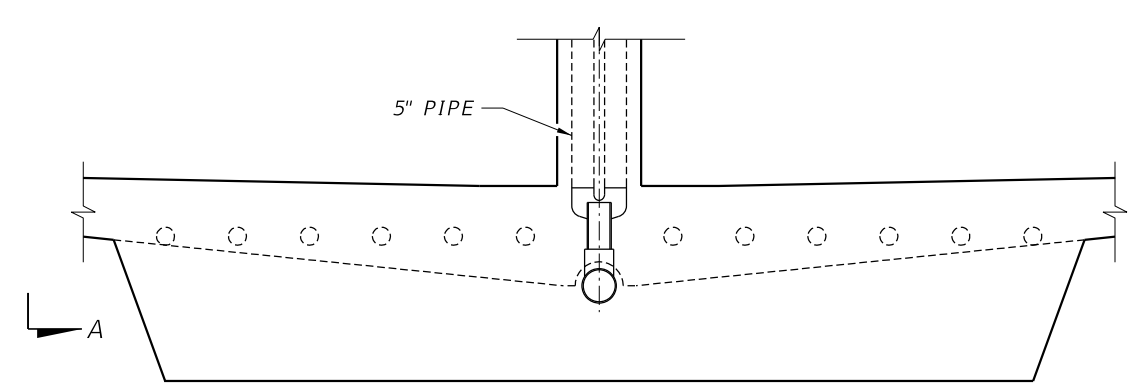
- NOTES:**
1. THE EXPANSION JOINT SHALL MEET THE ADA REQUIREMENTS.
  2. THE TOTAL DESIGN MOVEMENTS ARE:
    - a) SOUTH LANDING = 1.4 IN.
    - b) NORTH LANDING = 0.75 IN.

REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			DCB CHECKED BY: MF			EXPANSION JOINT DETAILS		
						FLORIDA INTERNATIONAL UNIVERSITY	ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO.		
						MIAMI - DADE	BT - 904	UNIVER	SITES	FILES	B-22			

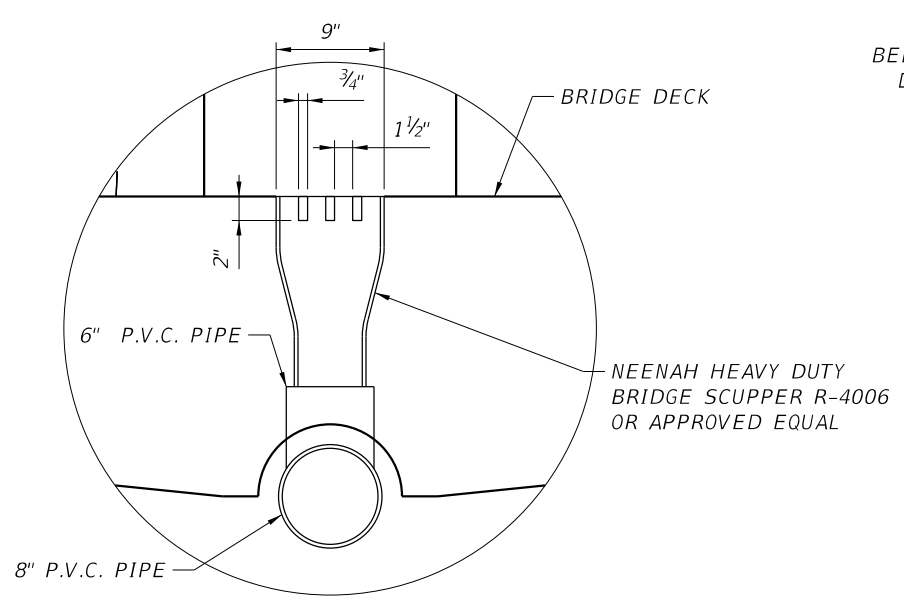




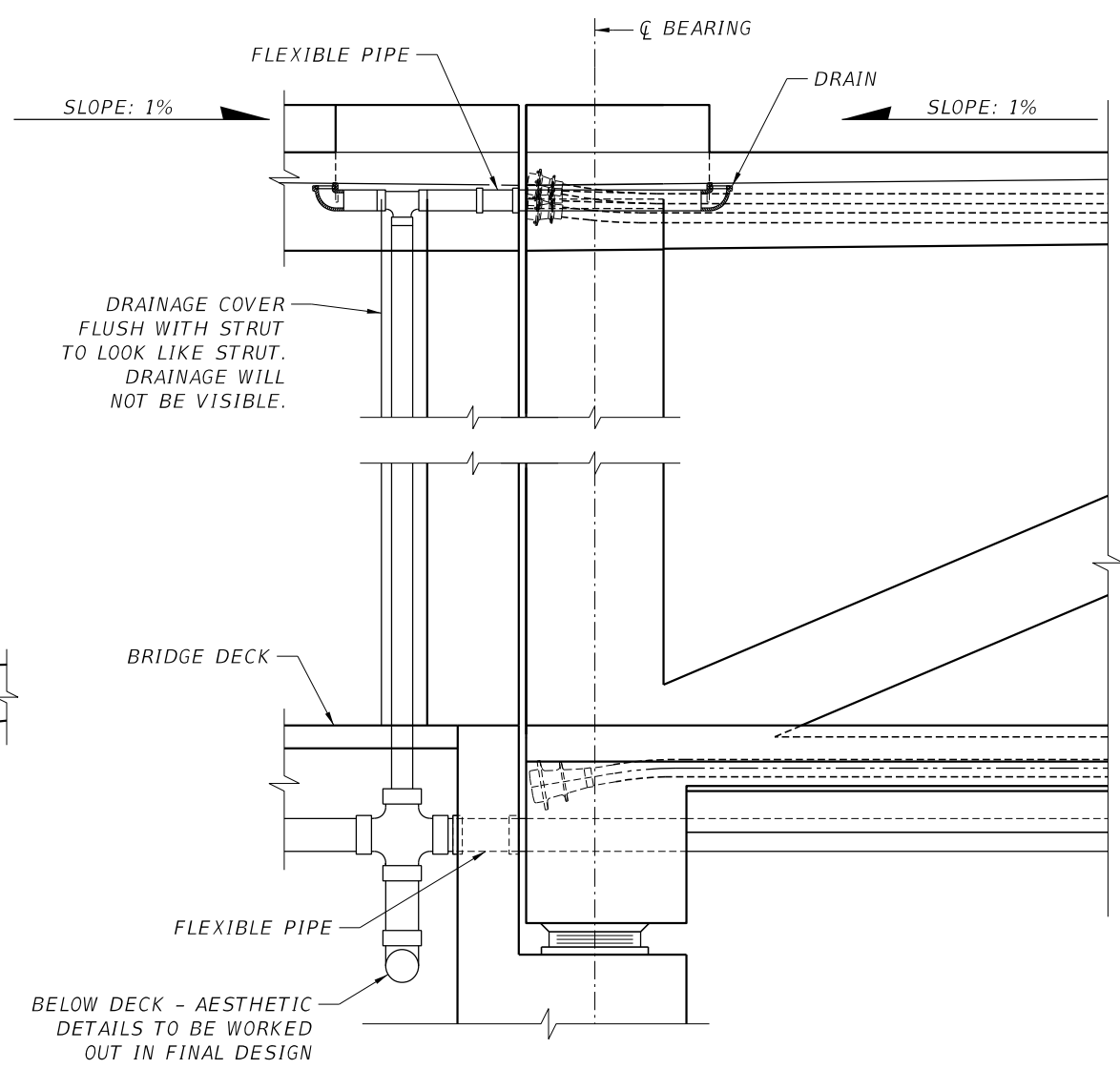
CANOPY END DETAIL



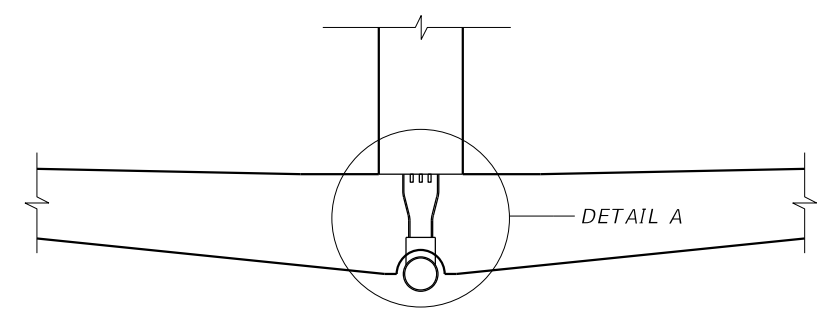
DECK END DETAIL



DETAIL A



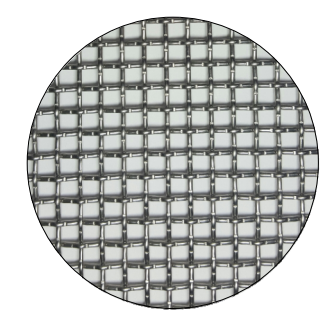
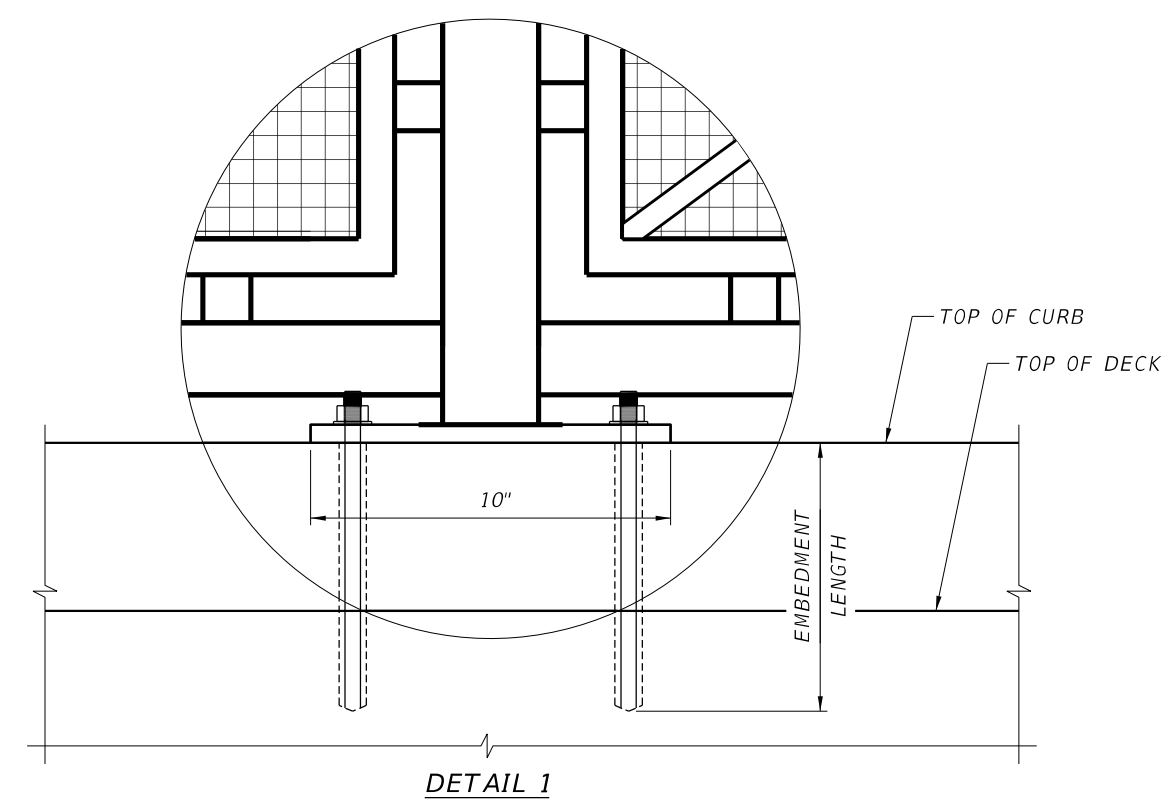
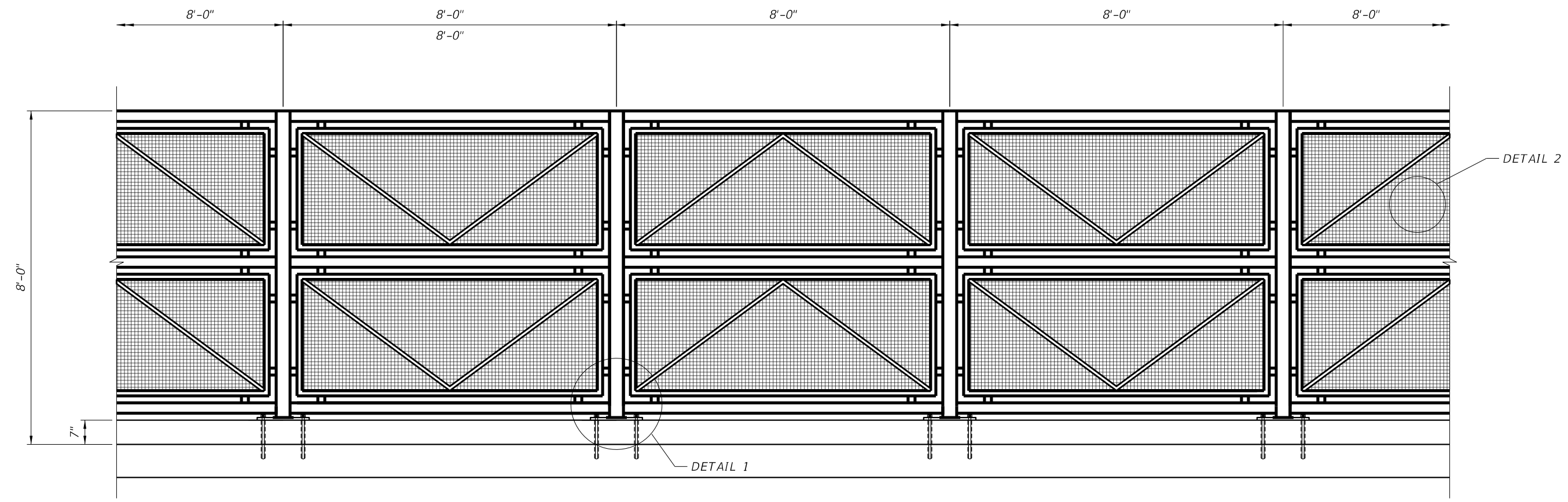
VIEW A-A



DECK TYPICAL DETAIL

**NOTES:**  
 1. DRAINAGE PIPE PLACEMENT IS POSITIONED BOTH FOR EFFICIENCY AND BEST AESTHETICS WHILE FULFILLING THE REQUIRED PROJECT CRITERIA.

REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 ROAD NO. COUNTY PROJECT ID			DRAINAGE DETAILS		
						 FLORIDA INTERNATIONAL UNIVERSITY			PROJECT NAME:			UNIVERSITYCITY PROSPERITY PROJECT		
						W. DENNEY PATE, P.E. - P.E. NO. 34332			MIAMI - DADE BT - 904			SHEET NO.		
						SUSERS			SDATES			STIMES		
						SFILES			UNIFORMS			B-23		

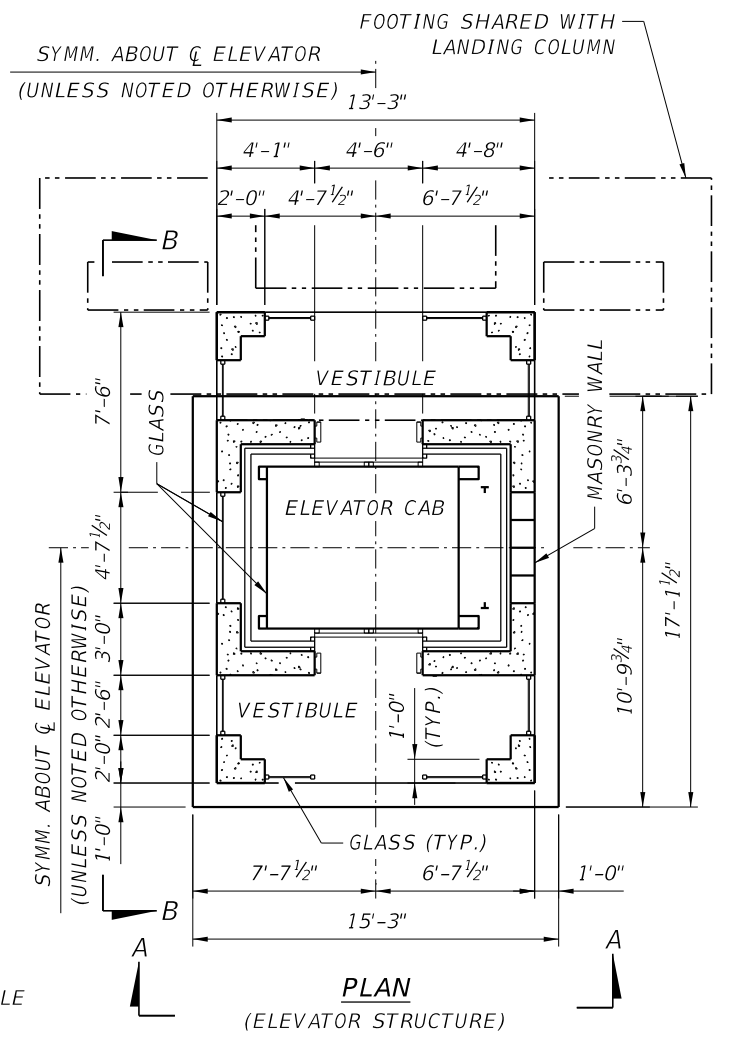
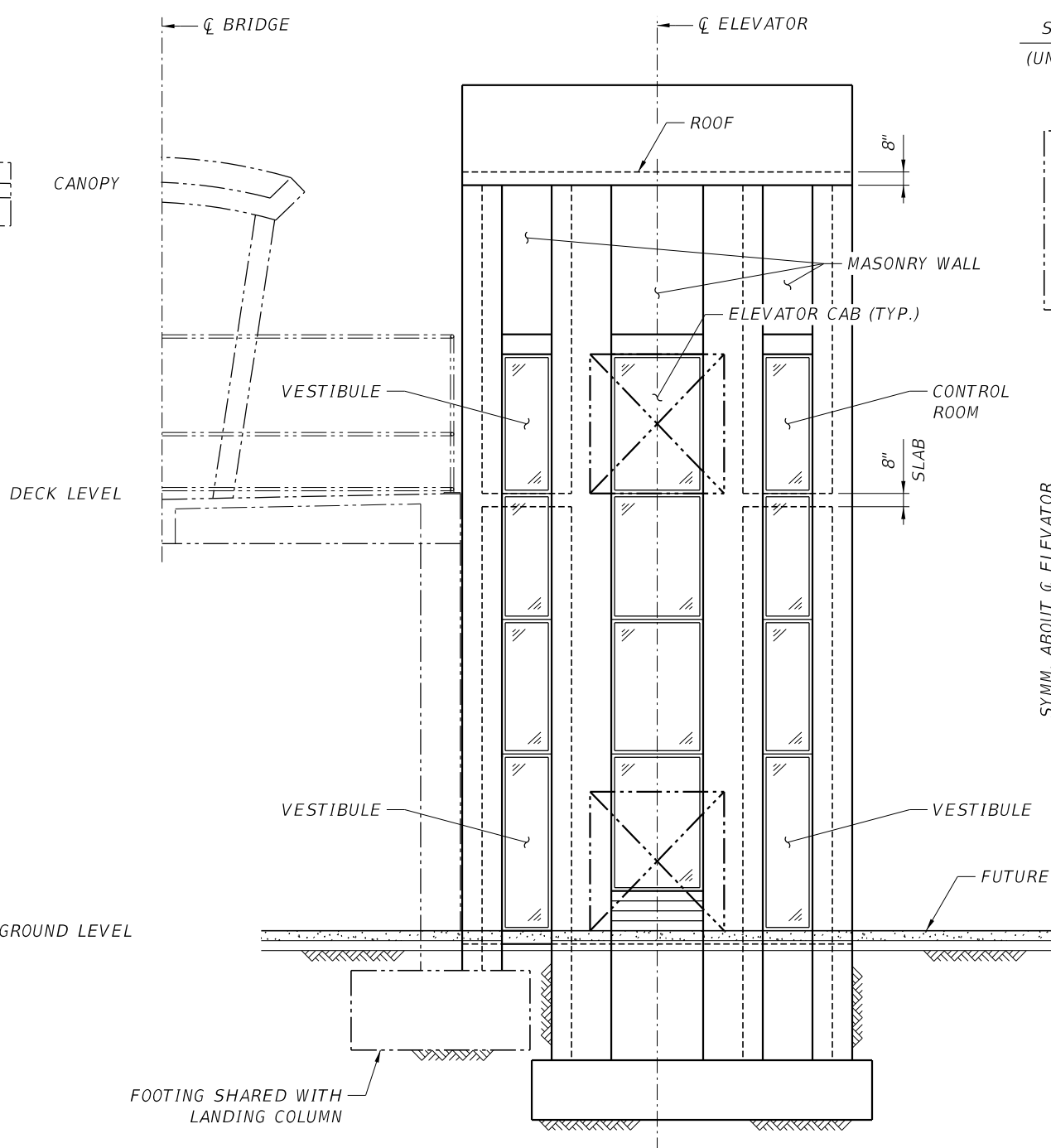
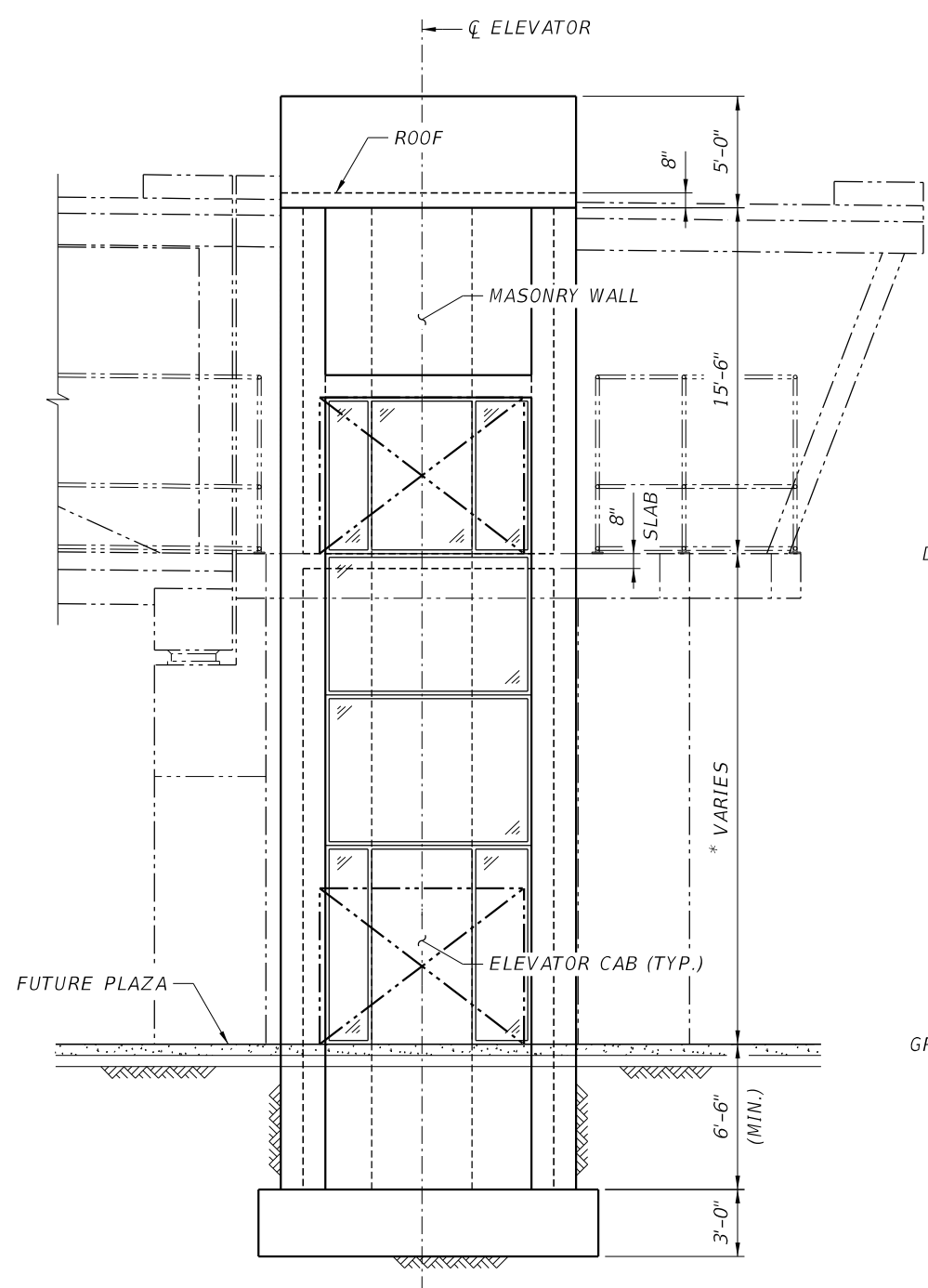


DETAIL 2 - 1/4" MESH

NOTES:  
 1. THE MESH AND FRAME MATERIAL SHALL BE TYPE 316 STAINLESS STEEL.

REVISIONS						ENGINEER OF RECORD:			DRAWN BY:			SHEET TITLE:					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332			 LTC CHECKED BY: MF DESIGNED BY: SED CHECKED BY: MF			 ROAD NO. COUNTY PROJECT ID MIAMI - DADE BT - 904			MISSILE GUARD FENCE DETAILS UNIVERSITYCITY PROSPERITY PROJECT		





**ELEVATOR GENERAL NOTES:**  
 TYPE: MACHINE-ROOM-LESS (MRL) TRACTION PASSENGER ELEVATOR  
 SPEED: 150 FPM  
 CAPACITY: 5000 LBS  
 ENTRANCE TYPE: FRONT AND REAR  
 CAR DOORS: SINGLE SPEED CENTER OPENING, SS#4  
 CAB SIDE WALL A (SOUTH): SS#4 FRAMES  
 CAB SIDE WALL A (NORTH): 3/16" THICK CLEAR SAFETY LAMINATED GLASS WITH SS#4 FRAMES  
 CEILING: SS#4 FINISH WITH 6 LED DOWNLIGHTS  
 HANDRAIL: 1 1/2" DIAMETER, SS#4 FINISH AT SIDE WALLS

**NOTES:**  
 THE APPROXIMATED HEIGHT OF THE SOUTH LANDING AND THE NORTH LANDING ARE 22'-0" AND 25'-4" RESPECTIVELY.

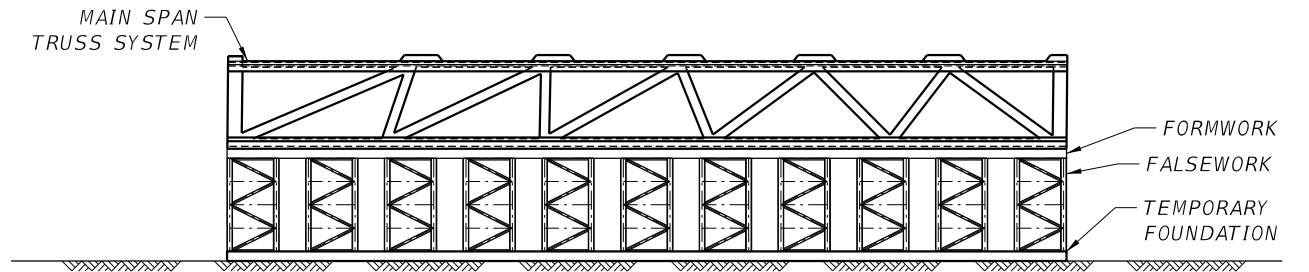
REVISIONS						ENGINEER OF RECORD:		DRAWN BY:			SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 DESIGN-BUILD TEAM			ELEVATOR STRUCTURE DETAILS	
						 424 North Calhoun Street Tallahassee, Florida 32301 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618 W. DENNEY PATE, P.E. - P.E. NO. 34332		 DESIGN-BUILD TEAM			UNIVERSITYCITY PROSPERITY PROJECT	
						ROAD NO. COUNTY PROJECT ID MIAMI - DADE BT - 904		PROJECT NAME:			SHEET NO. <b>B-25</b>	



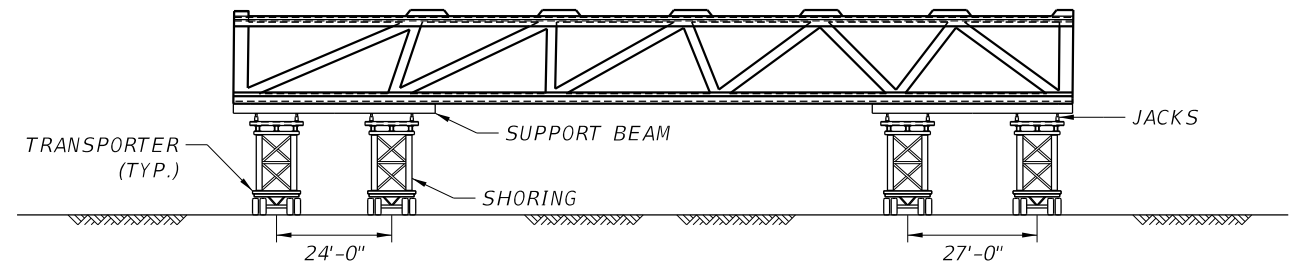
**STAGING AREA**

**NOTES:**

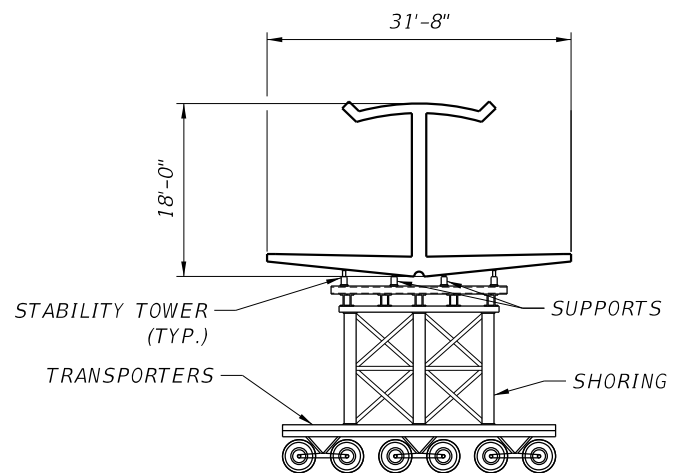
1. THE DESIGN-BUILD TEAM IS PROPOSING TO USE THE SOUTHWEST CORNER OF SW 8<sup>TH</sup> STREET AND UNIVERSITY PARKWAY.
2. THE DESIGN-BUILD TEAM WILL REMOVE TEMPORARY FOUNDATION AFTER PROJECT COMPLETION.
3. ABOVE DIMENSIONS ARE APPROXIMATED.



**TEMPORARY SUPPORT CONDITION - PRECASTING**



**SPMT SUPPORT DETAILS**




**SCHEMATIC SUPPORT SYSTEM**




**NOTES:**

1. TEMPORARY SUPPORT STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO DESIGN GUIDE FOR BRIDGE TEMPORARY WORK.
2. THE PERMANENT STRUCTURE DEFLECTIONS SHALL BE MONITORED DURING THE MOVE FROM CASTING POSITION TO FINAL POSITION.
3. LONGITUDINAL POST-TENSIONING TENDONS ARE REQUIRED TO BE STRESSED PRIOR TO LIFTING THE SPAN WITH THE SPMT.
4. TRANSVERSE TENDONS SHALL BE STRESSED AFTER THE CONCRETE STRENGTH HAS REACHED 4500 PSI.
5. FOR GENERAL ERECTION SEQUENCE, SEE ERECTION SEQUENCE I & II DRAWINGS.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: LTC  
 CHECKED BY: MF  
 DESIGNED BY: MF  
 CHECKED BY: WDP

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

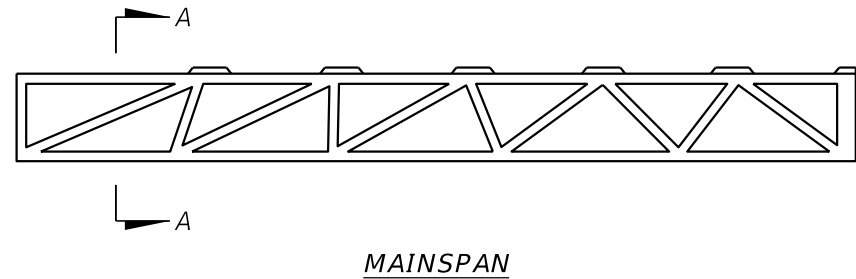
SHEET TITLE: ABC & BRIDGE STAGING AREA

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

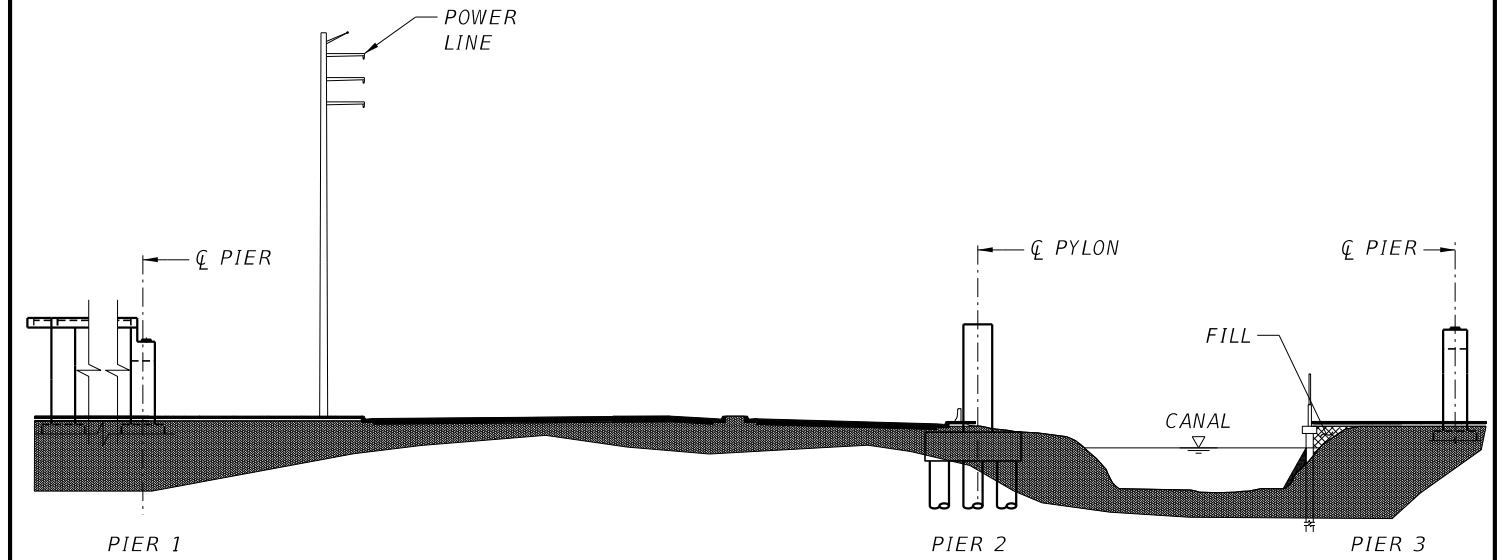
SHEET NO. B-26



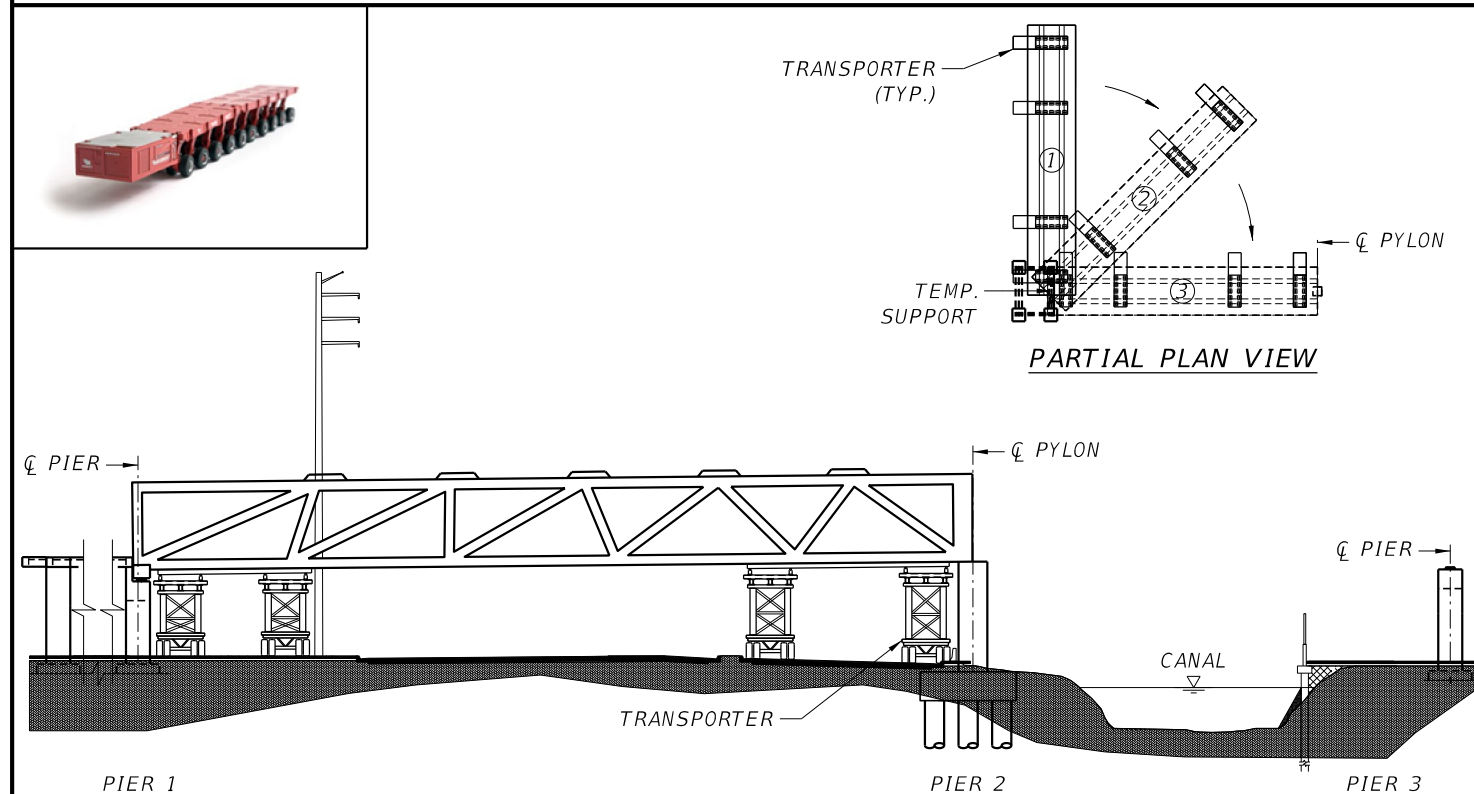
SECTION A-A



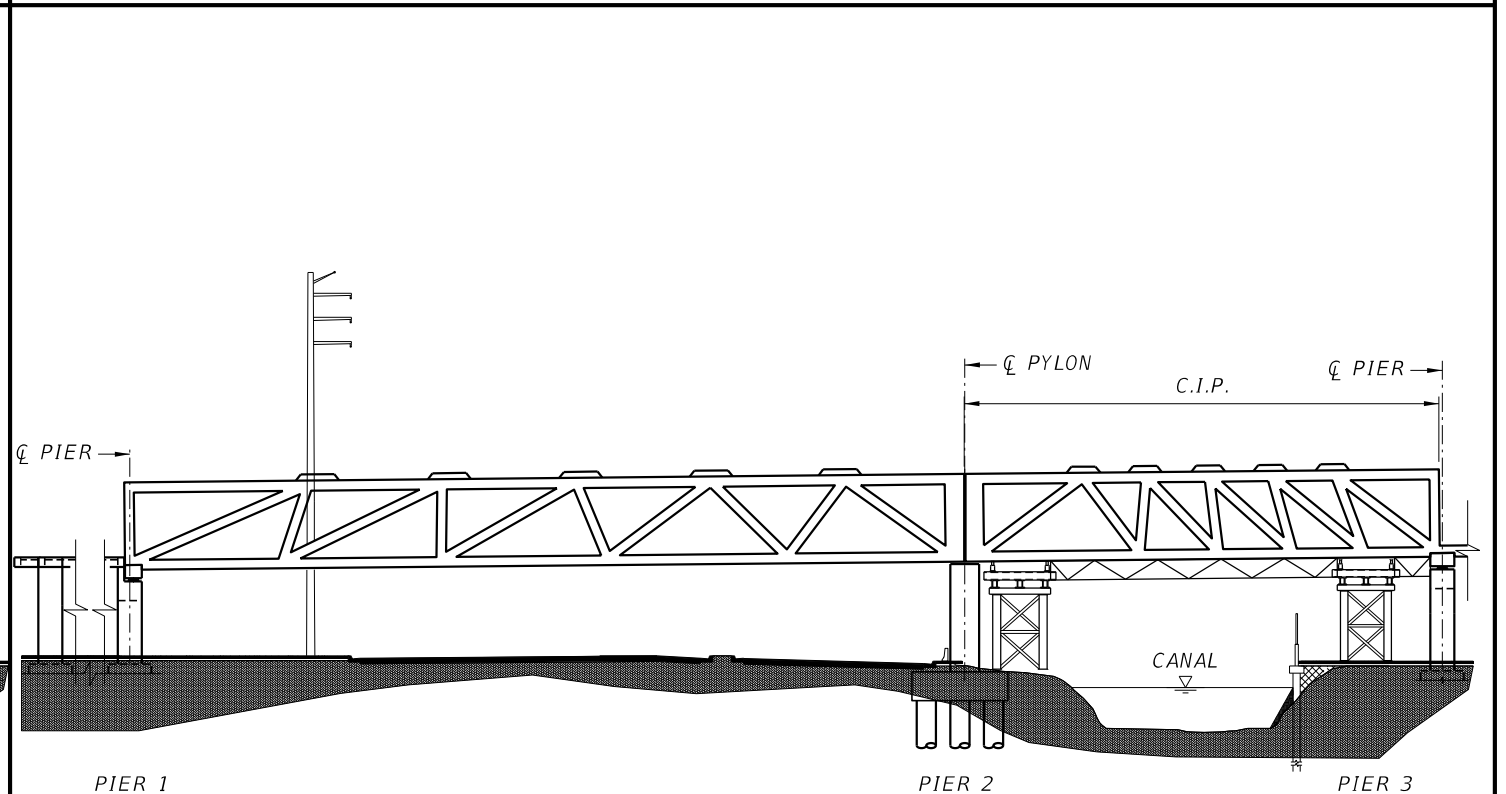
- STAGE 1 - SUPERSTRUCTURE PRE-CASTING**
1. MAIN SPAN
    - a) CAST MAIN SPAN SUPERSTRUCTURE INCLUDING DECK AND CANOPY.
    - b) STRESS BOTTOM SLAB TRANSVERSE POST-TENSIONING AND LONGITUDINAL P.T.



- STAGE 2 - SUBSTRUCTURE CASTING**
1. BUILD ALL FOOTINGS AND BASE OF PYLON.
  2. BUILD COLUMN FRAME FOR BOTH LANDINGS.



- STAGE 3 - ROTATION OF MAIN SPAN**
1. ROTATE MAIN SPAN FROM THE CASTING POSITION (1) TO THE FINAL POSITION (3).
  2. INSTALL BEARING PADS AT PIER 1 AND REMOVE TEMPORARY SUPPORT.
  3. SECURE TRUSS AT PYLON.



- STAGE 4 - CASTING OF BACK SPAN**
1. ERECT FALSEWORK.
  2. INSTALL BEARING PAD AT PIER 3.
  3. CAST DECK, TRUSS AND CANOPY.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: LTC  
 CHECKED BY: MF  
 DESIGNED BY: MF  
 CHECKED BY: WDP

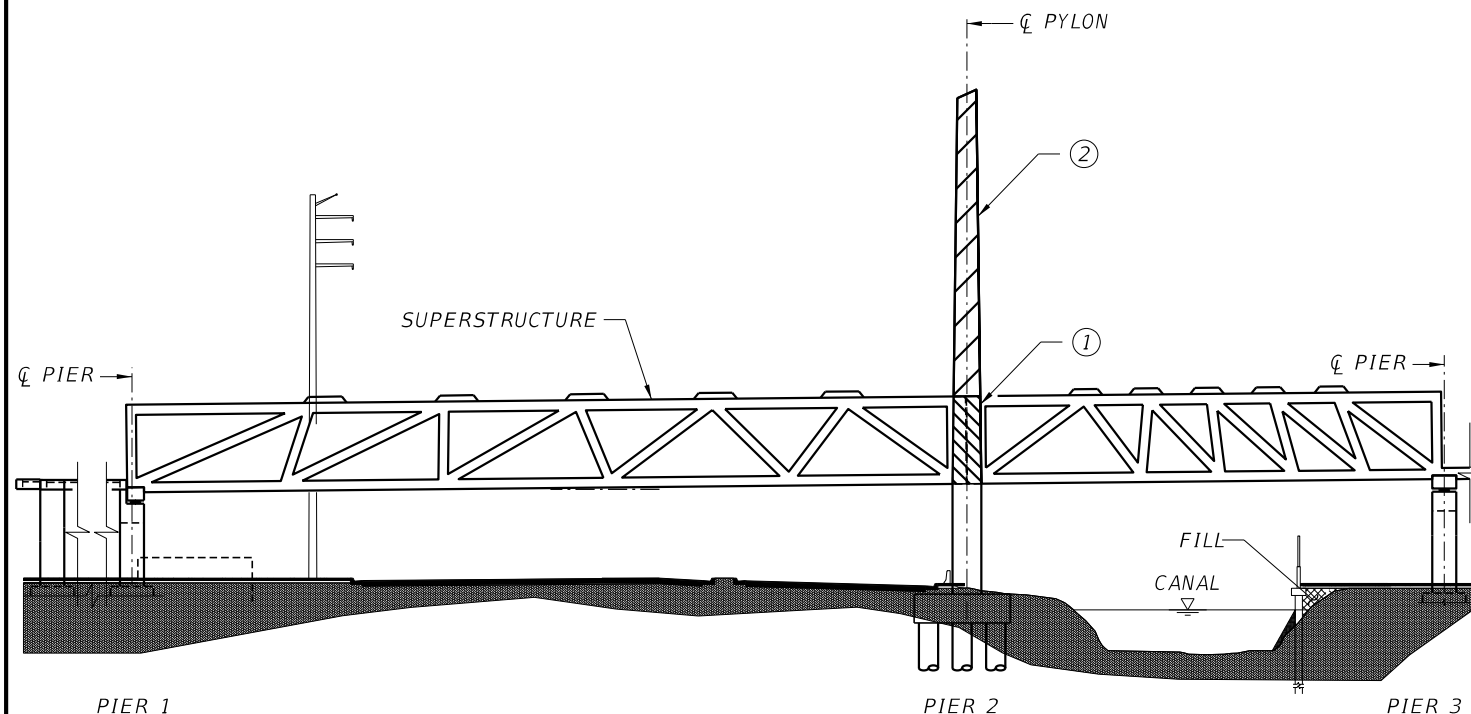
ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

SHEET TITLE: **ERECTION SEQUENCE I**

PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

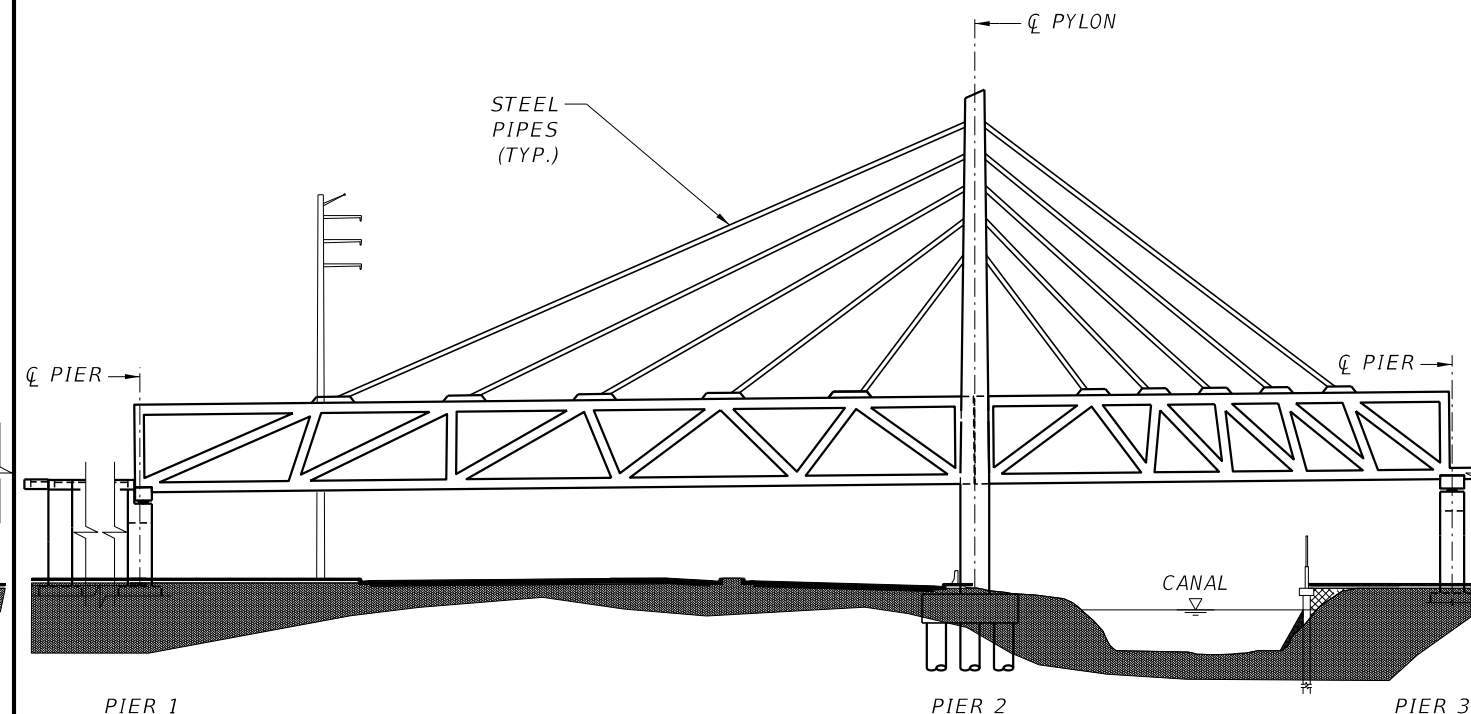
SHEET NO. **B-27**

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



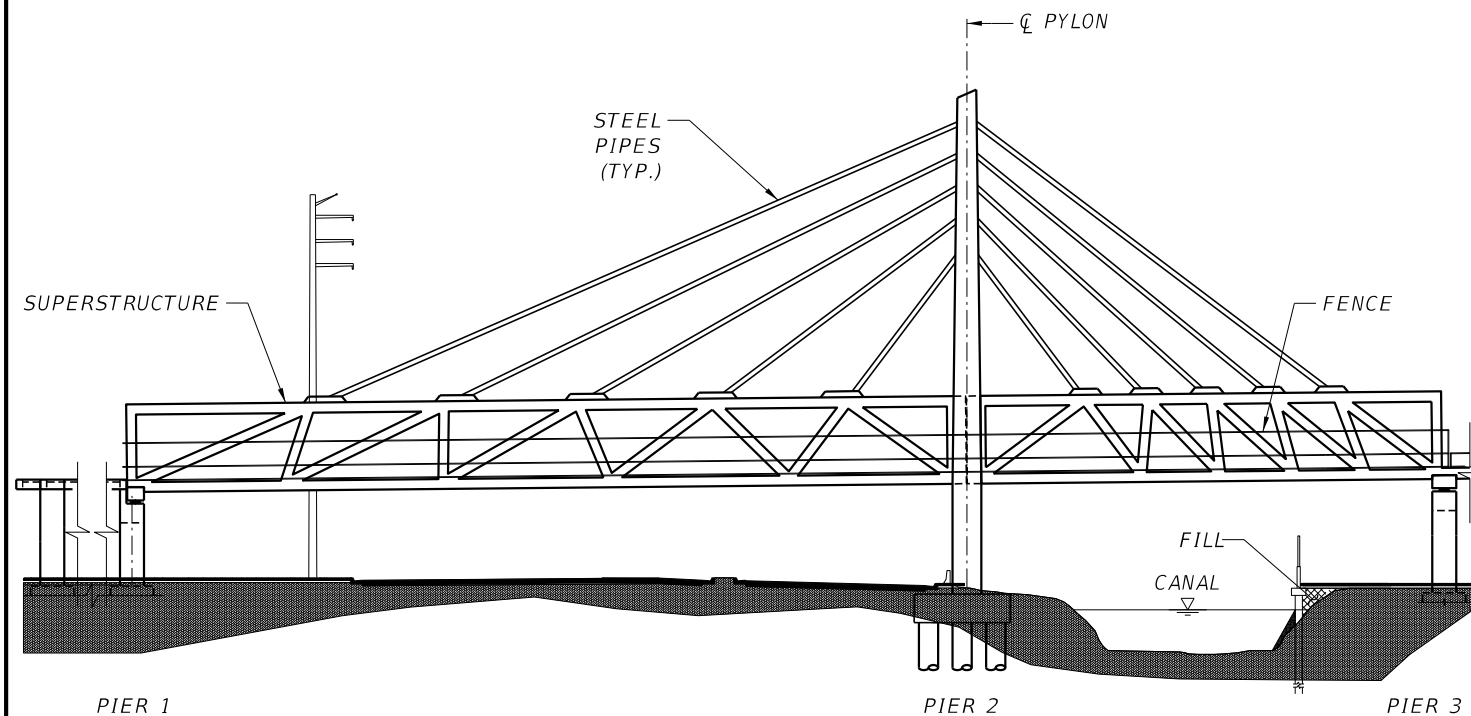
**STAGE 5 - CAST PYLON**

1. CAST PYLON SECTION AT DECK LEVEL, CONNECTING THE SUPERSTRUCTURE SECTION.
2. CAST TOP SECTION OF PYLON.



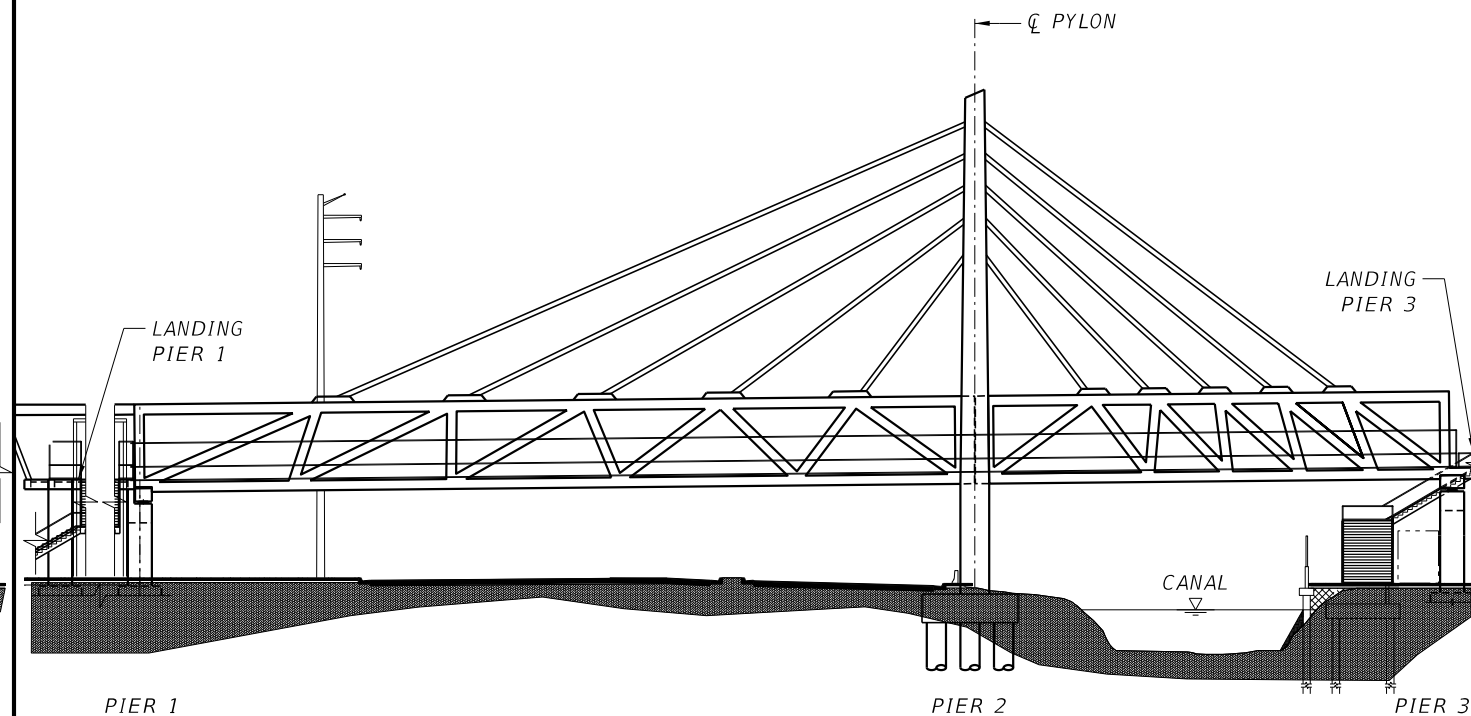
**STAGE 6 - INSTALL STAYS**

1. CONNECT STEEL PIPES TO THE SUPERSTRUCTURE AND PYLON.



**STAGE 7 - INSTALLATION OF BRIDGE ELEMENTS**


1. INSTALL MISSILE FENCE.
2. EXPANSION JOINTS @ PIERS 1 AND 3.
3. INSTALL BRIDGE LIGHTING.
4. INSTALL DRAINAGE SYSTEM.






**STAGE 8 - INSTALLATION OF LANDINGS**

1. INSTALL ELEVATORS AT BOTH ENDS.
2. CONSTRUCT STAIRWAYS.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:  
  
 424 North Calhoun Street  
 Tallahassee, Florida 32301  
 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 5618  
 W. DENNEY PATE, P.E. - P.E. NO. 34332

DRAWN BY: LTC  
 CHECKED BY: MF  
 DESIGNED BY: MF  
 CHECKED BY: WDP

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

SHEET TITLE: **ERECTION SEQUENCE II**

PROJECT NAME: **UNIVERSITYCITY PROSPERITY PROJECT**

SHEET NO. **B-28**

PRELIMINARY NOT FOR CONSTRUCTION - SEPTEMBER 2015



## INDEX OF DRAWINGS

<i>R-01</i>		<i>INDEX OF DRAWINGS</i>
<i>R-02</i>		<i>KEY SHEET - DEMOLITION</i>
<i>R-03-R-05</i>		<i>EXISTING CONDITIONS &amp; DEMOLITION FOR ALTERNATIVE 1</i>
<i>R-06-R-07</i>		<i>EXISTING CONDITIONS &amp; DEMOLITION</i>
<i>R-08</i>		<i>KEY SHEET</i>
<i>R-09-R-10</i>		<i>UNIVERSITYCITY IMPROVEMENTS ALTERNATIVE 1</i>
<i>R-11</i>		<i>UNIVERSITYCITY IMPROVEMENTS</i>
<i>R-12</i>		<i>UNIVERSITYCITY IMPROVEMENTS ADVANCED INTERMODAL STATION (AIMS) PLATFORM</i>
<i>R-13</i>		<i>COMPLETE STREET, US-41 INTERSECTION (FIU- SWEETWATER)</i>
<i>R-14</i>		<i>COMPLETE STREET SWEETWATER SECTION</i>
<i>R-15-R-17</i>		<i>TYPICAL SECTION</i>
<i>R-18</i>		<i>SWEETWATER RIGHT OF WAY</i>
<i>R-19</i>		<i>COMPLETE STREET DETAILS</i>
<i>M-01-M-04</i>		<i>MAINTENANCE OF TRAFFIC PLANS</i>

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY:	 	SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		ROAD NO.		COUNTY	PROJECT ID
									<b>INDEX OF DRAWINGS</b>	
							<i>MIAMI-DADE</i>	<i>BT-904</i>	<i>UNIVERSITYCITY PROSPERITY PROJECT</i>	<b>R-01</b>

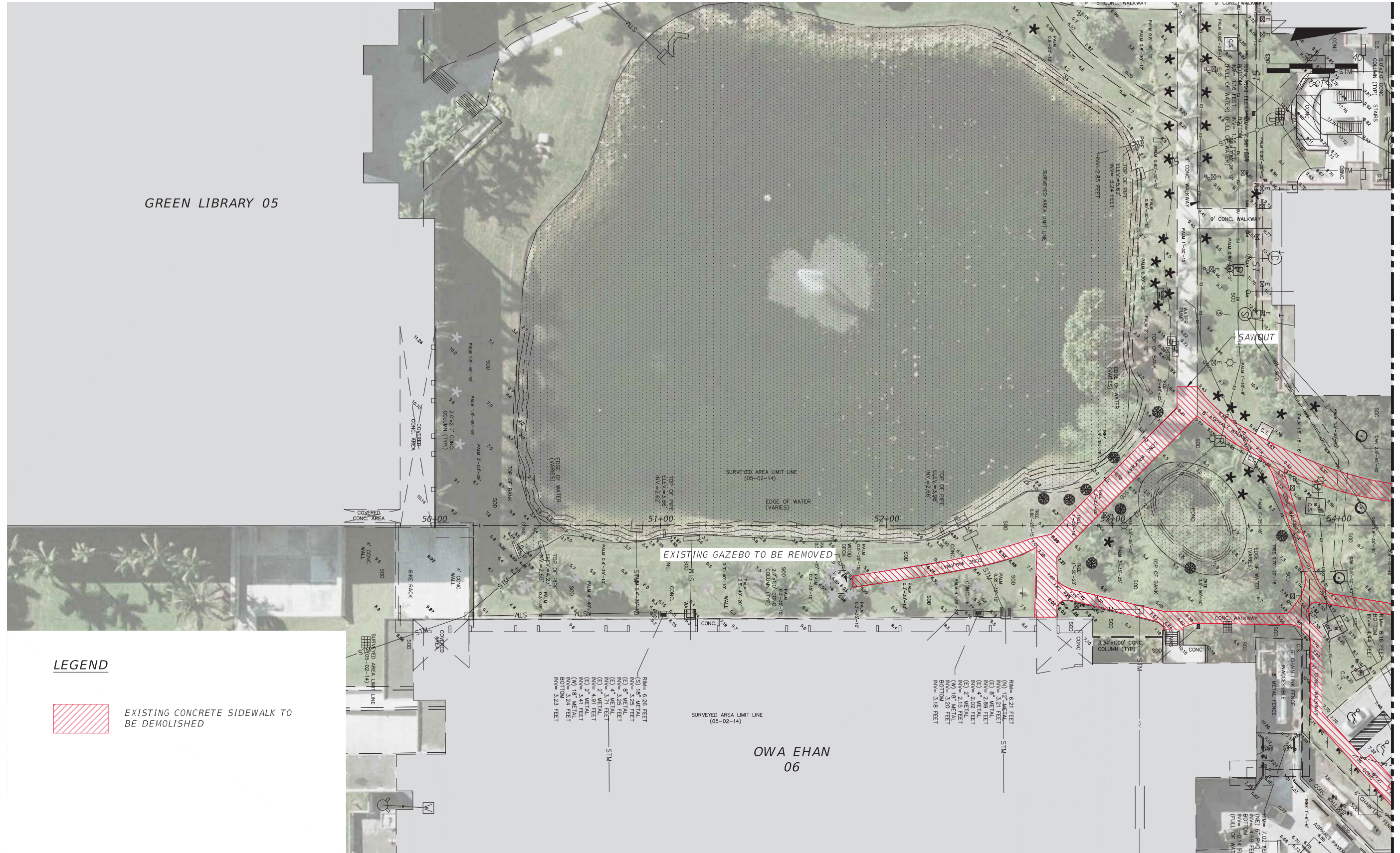




NOT FOR CONSTRUCTION PLANS

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY:		SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY:		ROAD NO.	COUNTY	PROJECT ID
								MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT	R-02






GREEN LIBRARY 05

**LEGEND**

 EXISTING CONCRETE SIDEWALK TO BE DEMOLISHED

FOR CONTINUATION REFER TO SHEET R-04

NOT FOR CONSTRUCTION PLANS

REVISIONS					UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY:  <b>FIU</b> FLORIDA INTERNATIONAL UNIVERSITY	SHEET TITLE: <b>EXISTING CONDITIONS &amp; DEMOLITION FOR ALTERNATIVE 1</b>
DATE	BY	DESCRIPTION	DATE	BY			
						ROAD NO. COUNTY PROJECT ID <b>MIAMI-DADE BT-904</b>	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>
						SHEET NO. <b>R-03</b>	SHEET NO. <b>R-03</b>

Filename: P:\Technical Proposal\FIU Pedestrian Bridge\CADD\archive\Roadway\Existing Conditions Plans - Plot Date: Sep. 25, 15





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-000797

DRAWN BY:				
CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID	
DESIGNED BY:	MIAMI-DADE	MIAMI-DADE	BT-904	
CHECKED BY:				

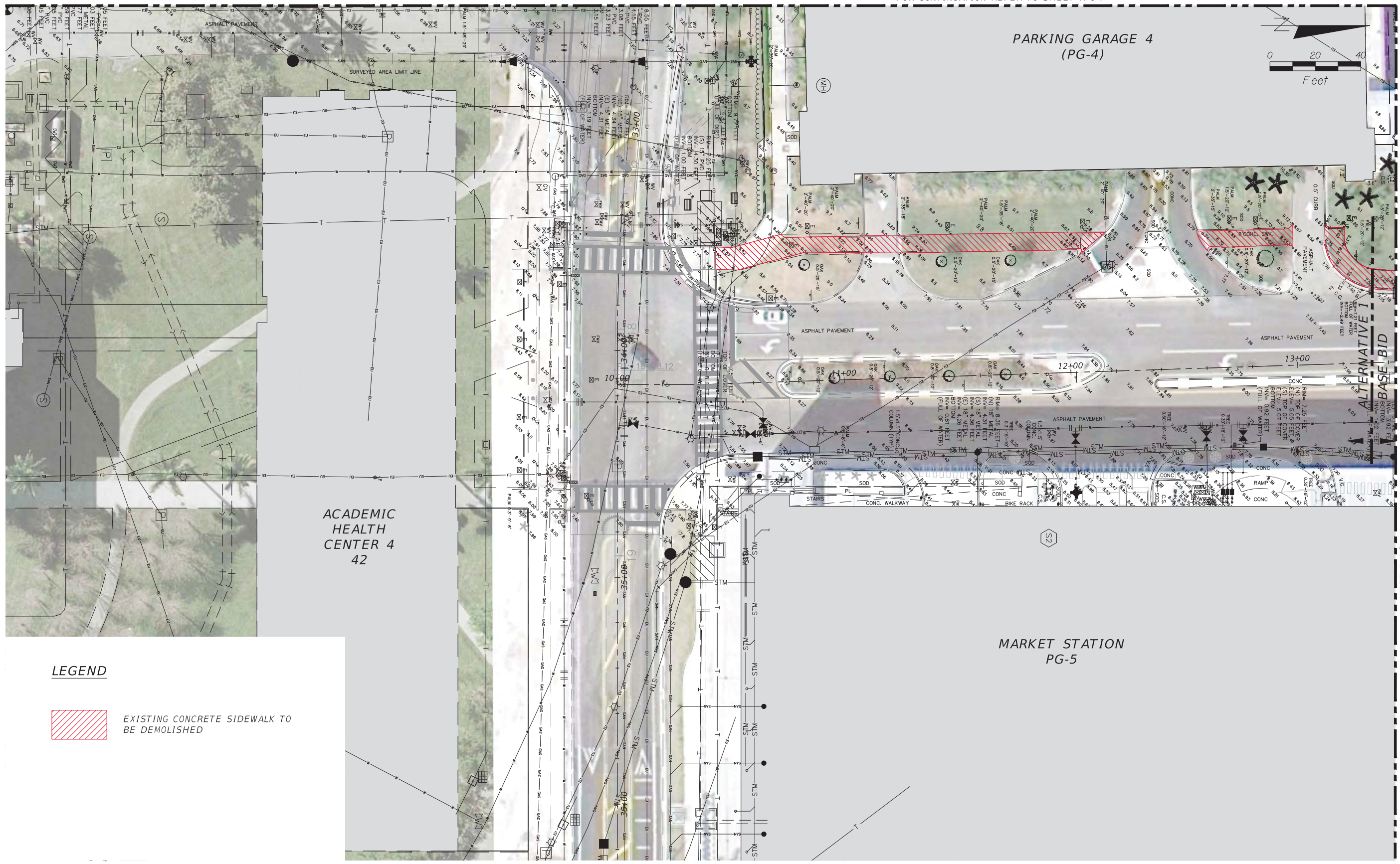
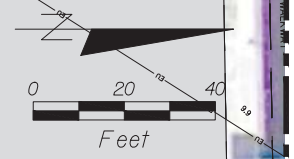
SHEET TITLE:		<b>EXISTING CONDITIONS &amp; DEMOLITION FOR ALTERNATIVE 1</b>	
PROJECT NAME:		UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:		<b>R-04</b>	

NOT FOR CONSTRUCTION PLANS



FOR CONTINUATION REFER TO SHEET R-04

PARKING GARAGE 4  
(PG-4)



ACADEMIC  
HEALTH  
CENTER 4  
42

MARKET STATION  
PG-5

ALTERNATIVE 1  
BASE BID

LEGEND



EXISTING CONCRETE SIDEWALK TO BE DEMOLISHED

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
PE LICENSE No. 40167  
A&P CONSULTING TRANSPORTATION  
ENGINEERS CORP.  
10305 N.W. 41 STREET, SUITE 115  
MIAMI, FL 33178  
CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:  
CHECKED BY:  
DESIGNED BY:  
CHECKED BY:

MCM + FIGG DESIGN-BUILD TEAM  

ROAD NO.	COUNTY	PROJECT ID
MIAMI-DADE	BT-904	

SHEET TITLE:  
**EXISTING CONDITIONS & DEMOLITION FOR ALTERNATIVE 1**

PROJECT NAME:  
**UNIVERSITYCITY PROSPERITY PROJECT**

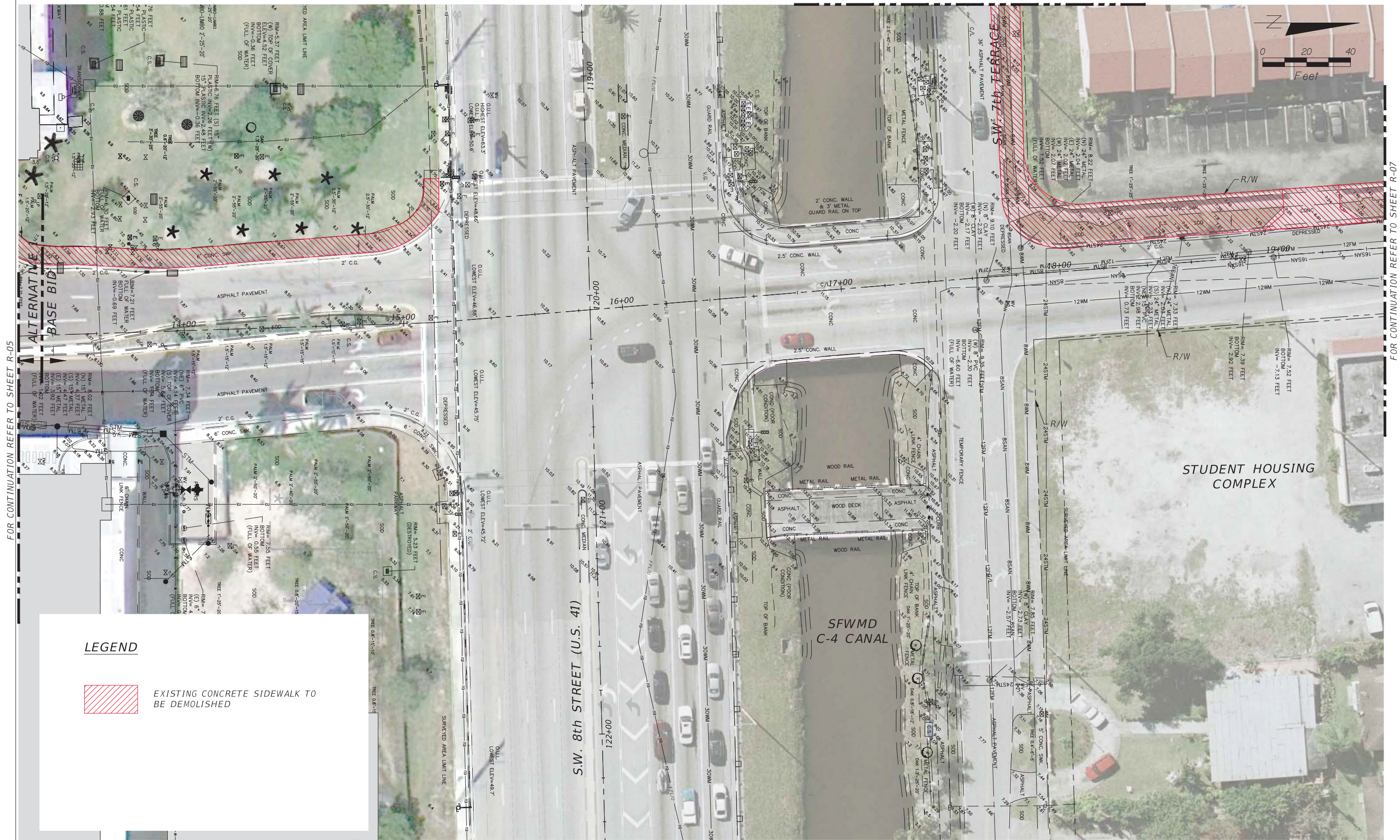
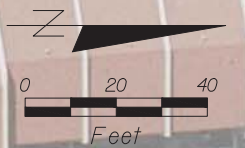
SHEET NO.  
**R-05**

FOR CONTINUATION REFER TO SHEET R-06

NOT FOR CONSTRUCTION PLANS

Filename: P:\Technical Proposals\FIU Pedestrian Bridge\CADD\archive\Roadway\Existing Conditions Plans - Plot Date: Sep. 26, 15





FOR CONTINUATION REFER TO SHEET R-05

FOR CONTINUATION REFER TO SHEET R-07

**LEGEND**

EXISTING CONCRETE SIDEWALK TO BE DEMOLISHED

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

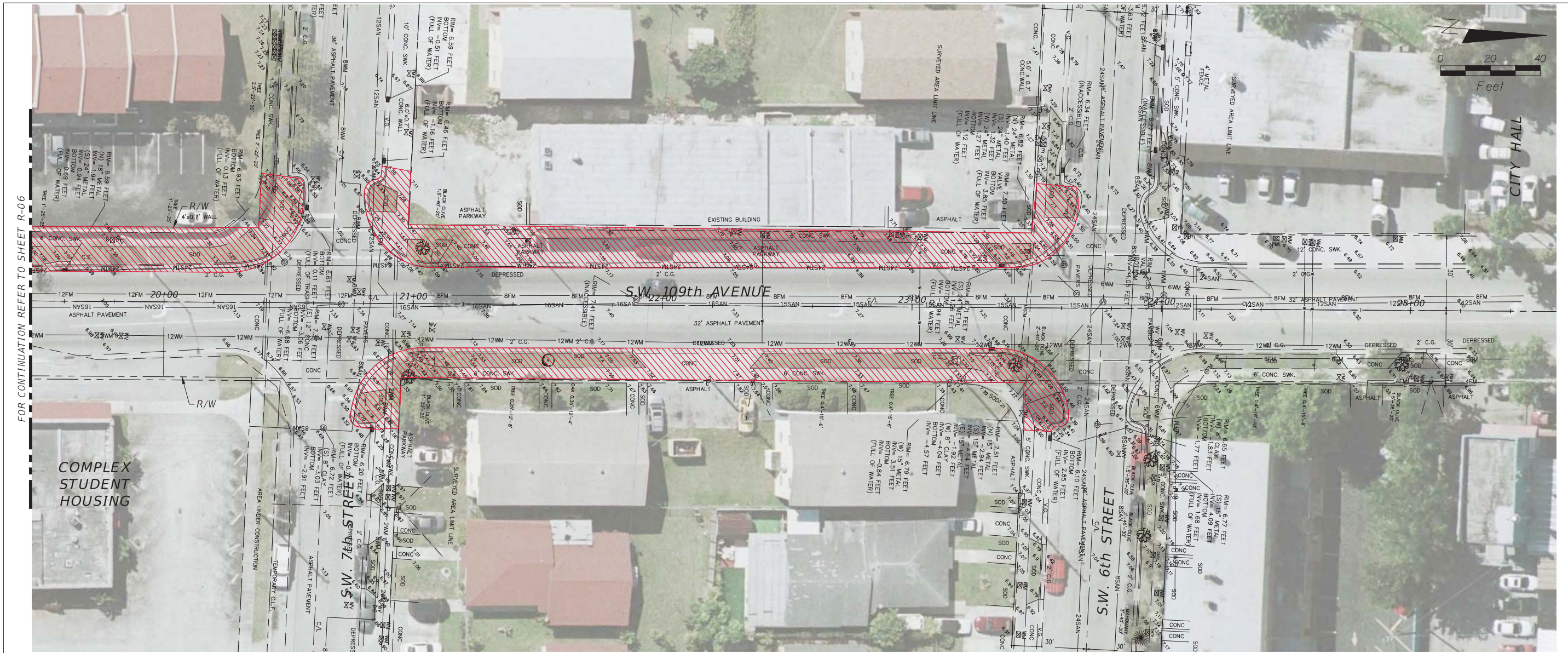
UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTHORIZATION EB-0007797

DRAWN BY:		FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:		
DESIGNED BY:	ROAD NO.	COUNTY
CHECKED BY:	MIAMI-DADE	PROJECT ID
		BT-904

SHEET TITLE:	EXISTING CONDITIONS & DEMOLITION	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.	R-06	

NOT FOR CONSTRUCTION PLANS





FOR CONTINUATION REFER TO SHEET R-06

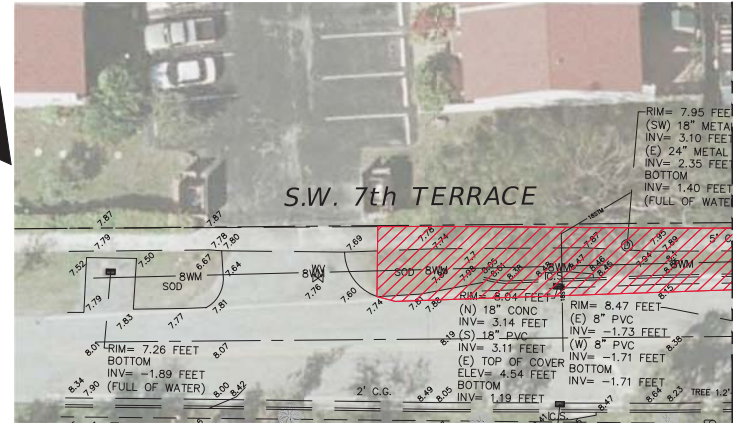
COMPLEX STUDENT HOUSING

CITY HALL

**LEGEND**



EXISTING CONCRETE SIDEWALK TO BE DEMOLISHED



FOR CONTINUATION REFER TO SHEET R-06

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTHORIZATION EB-0007797

DRAWN BY:	<b>MCM</b> + <b>FIGS</b>	<b>FIU</b>	FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:	DESIGN-BUILD TEAM	ROAD NO.	COUNTY
DESIGNED BY:		PROJECT ID	
CHECKED BY:		MIAMI-DADE	BT-904

SHEET TITLE:	<b>EXISTING CONDITIONS &amp; DEMOLITION</b>	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.	R-07	

NOT FOR CONSTRUCTION PLANS

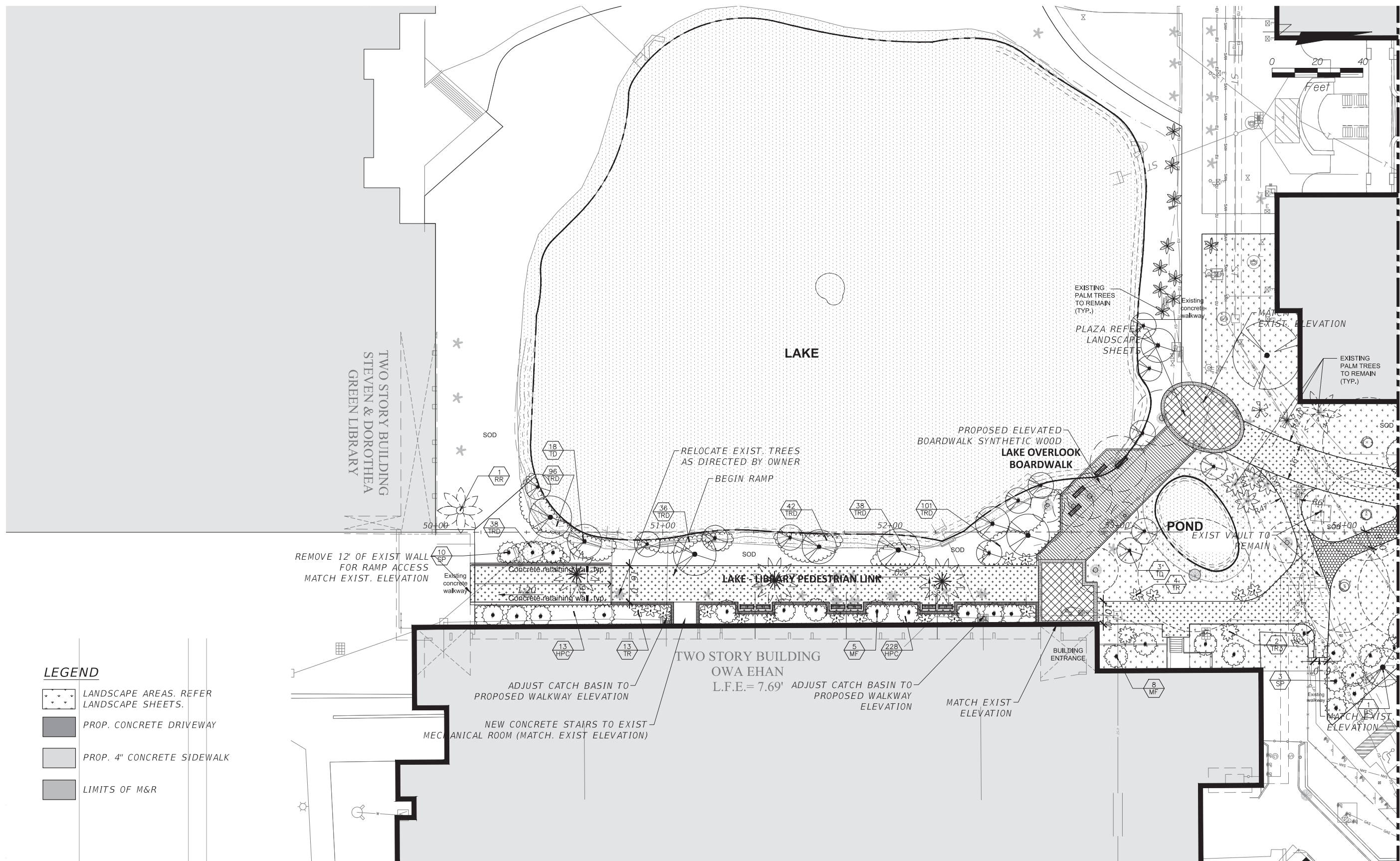




NOT FOR CONSTRUCTION PLANS

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY: CHECKED BY: DESIGNED BY: CHECKED BY:				SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	PROJECT ID	KEY SHEET	
										PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT		
										SHEET NO. R-08		





FOR CONTINUATION REFER TO SHEET R-10

NOT FOR CONSTRUCTION PLANS

**LEGEND**

- LANDSCAPE AREAS. REFER LANDSCAPE SHEETS.
- PROP. CONCRETE DRIVEWAY
- PROP. 4" CONCRETE SIDEWALK
- LIMITS OF M&R

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY: FLORIDA INTERNATIONAL UNIVERSITY

CHECKED BY: FLORIDA INTERNATIONAL UNIVERSITY

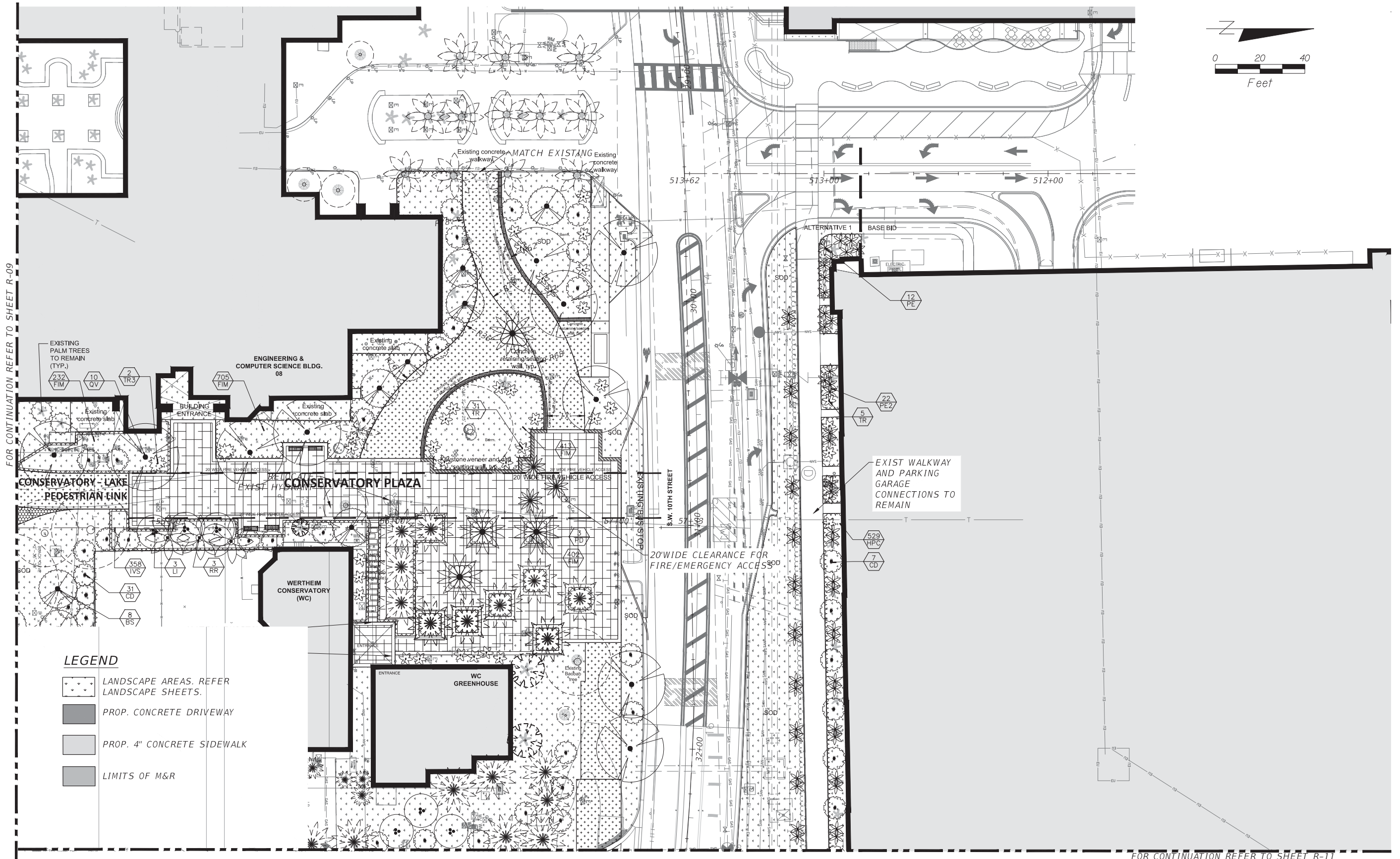
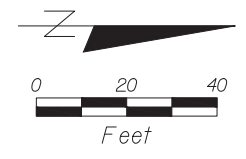
DESIGNED BY: ROAD NO. COUNTY PROJECT ID

CHECKED BY: MIAMI-DADE BT-904

SHEET TITLE: UNIVERSITY CITY IMPROVEMENTS ALTERNATIVE 1

PROJECT NAME: UNIVERSITY CITY PROSPERITY PROJECT

SHEET NO. R-09



FOR CONTINUATION REFER TO SHEET R-09

FOR CONTINUATION REFER TO SHEET R-11

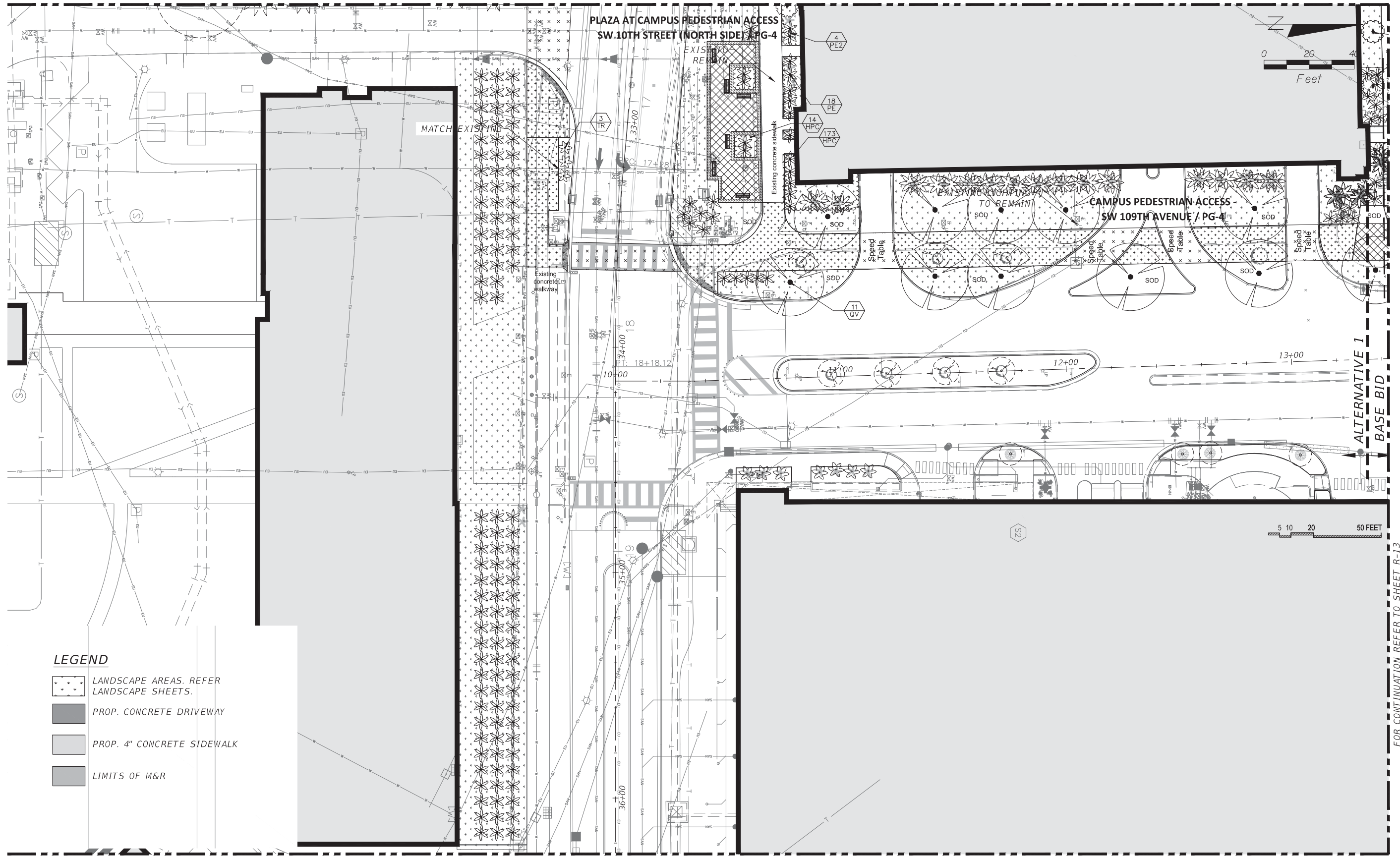
NOT FOR CONSTRUCTION PLANS

REVISIONS						DRAWN BY: MCM + FIGG DESIGN-BUILD TEAM	FIU FLORIDA INTERNATIONAL UNIVERSITY	SHEET TITLE: <b>UNIVERSITYCITY IMPROVEMENTS ALTERNATIVE 1</b>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			
						ROAD NO.	COUNTY	PROJECT ID
						MIAMI-DADE	BT-904	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>
								SHEET NO. <b>R-10</b>





UBALDO F. LENA, PE  
PE LICENSE No. 40167  
A&P CONSULTING TRANSPORTATION  
ENGINEERS CORP.  
10305 N.W. 41 STREET, SUITE 115  
MIAMI, FL 33178  
CERTIFICATE OF AUTHORIZATION EB-0007797



FOR CONTINUATION REFER TO SHEET R-10



**LEGEND**

-  LANDSCAPE AREAS. REFER LANDSCAPE SHEETS.
-  PROP. CONCRETE DRIVEWAY
-  PROP. 4" CONCRETE SIDEWALK
-  LIMITS OF M&R

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:  
 CHECKED BY:  
 DESIGNED BY:  
 CHECKED BY:

**MCM + FIGG** **FIU** FLORIDA INTERNATIONAL UNIVERSITY  
 DESIGN-BUILD TEAM

ROAD NO.	COUNTY	PROJECT ID
MIAMI-DADE		BT-904

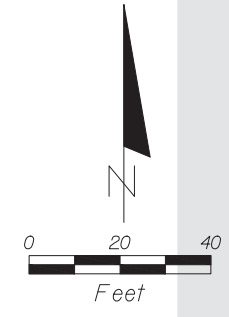
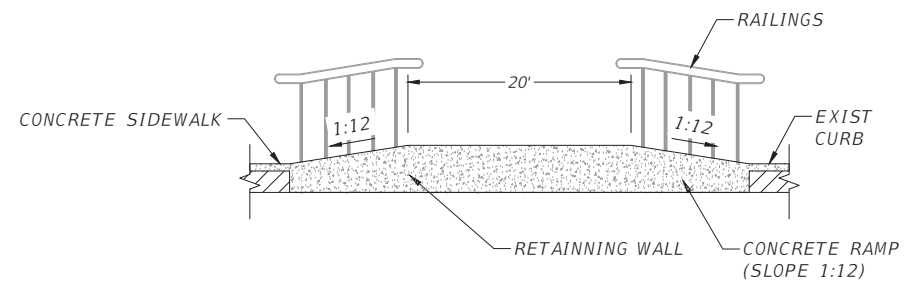
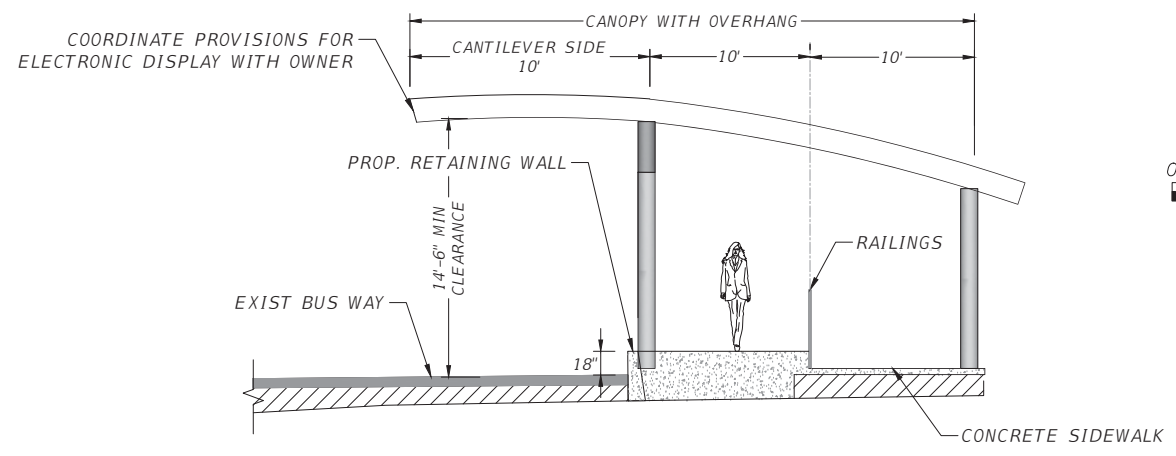
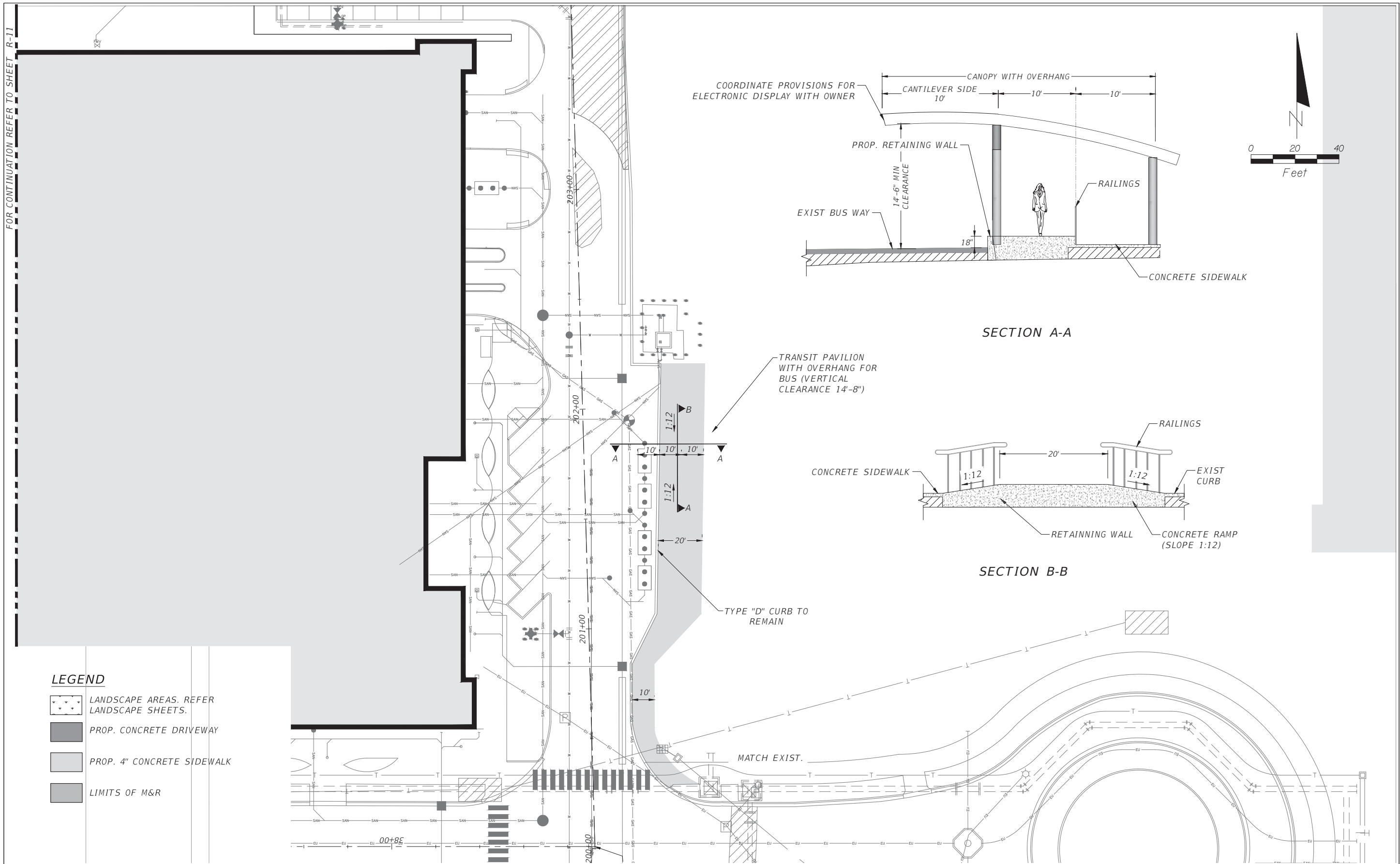
SHEET TITLE: <b>UNIVERSITYCITY IMPROVEMENTS</b>	
PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>	SHEET NO. <b>R-11</b>

FOR CONTINUATION REFER TO SHEET R-12

FOR CONTINUATION REFER TO SHEET R-13

NOT FOR CONSTRUCTION PLANS

FOR CONTINUATION REFER TO SHEET R-11



**LEGEND**

- LANDSCAPE AREAS. REFER LANDSCAPE SHEETS.
- PROP. CONCRETE DRIVEWAY
- PROP. 4" CONCRETE SIDEWALK
- LIMITS OF M&R

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

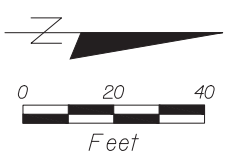
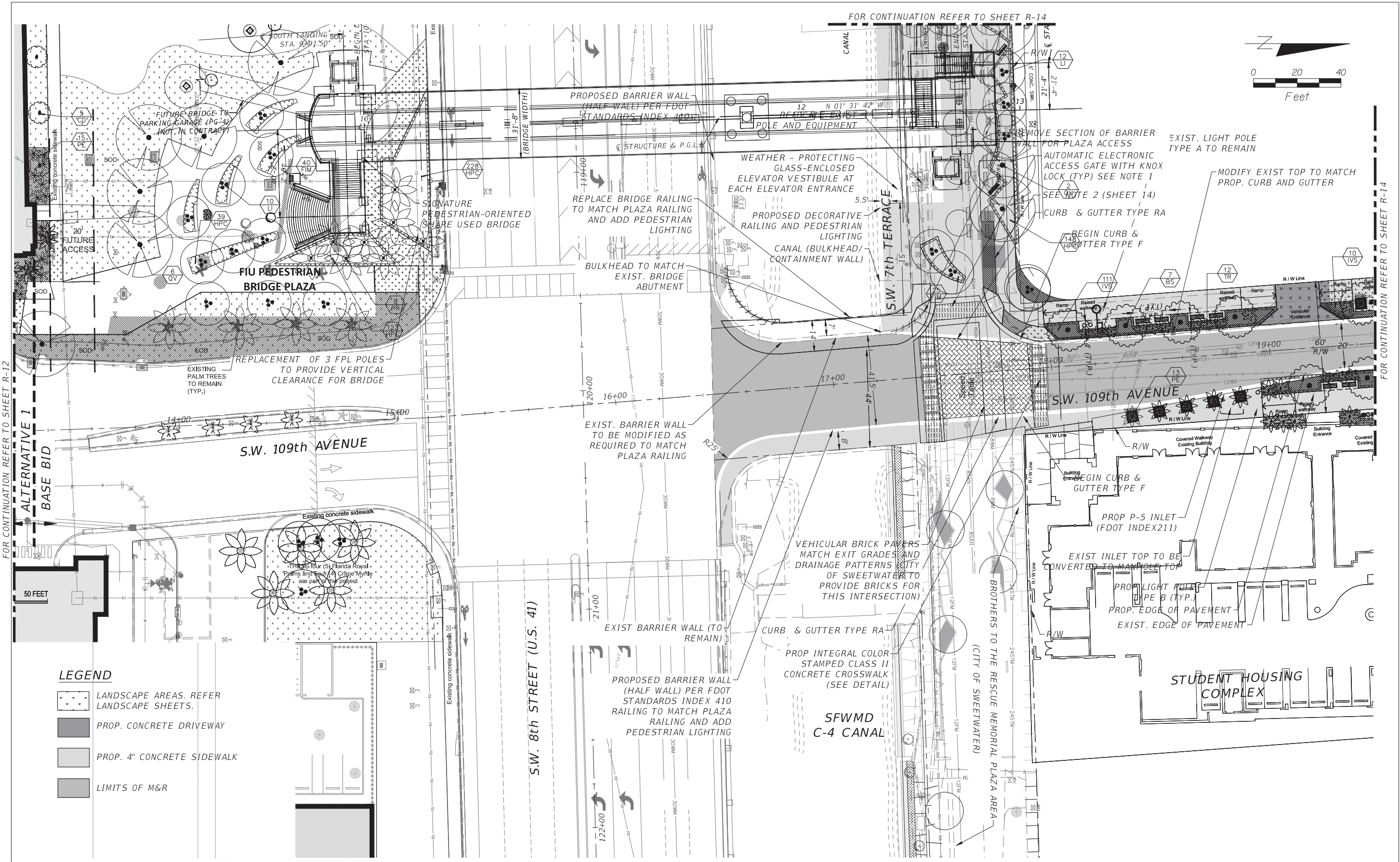
UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY: FLORIDA INTERNATIONAL UNIVERSITY  
 CHECKED BY:   
 DESIGNED BY: ROAD NO. COUNTY PROJECT ID  
 CHECKED BY: MIAMI-DADE BT-904

SHEET TITLE: UNIVERSITY CITY IMPROVEMENTS  
 ADVANCED INTERMODAL STATION (AIMS) PLATFORM  
 PROJECT NAME: UNIVERSITY CITY PROSPERITY PROJECT  
 SHEET NO. R-12

NOT FOR CONSTRUCTION PLANS





FOR CONTINUATION REFER TO SHEET R-12

FOR CONTINUATION REFER TO SHEET R-14

NOT FOR CONSTRUCTION PLANS

**LEGEND**

- LANDSCAPE AREAS. REFER LANDSCAPE SHEETS.
- PROP. CONCRETE DRIVEWAY
- PROP. 4" CONCRETE SIDEWALK
- LIMITS OF M&R

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

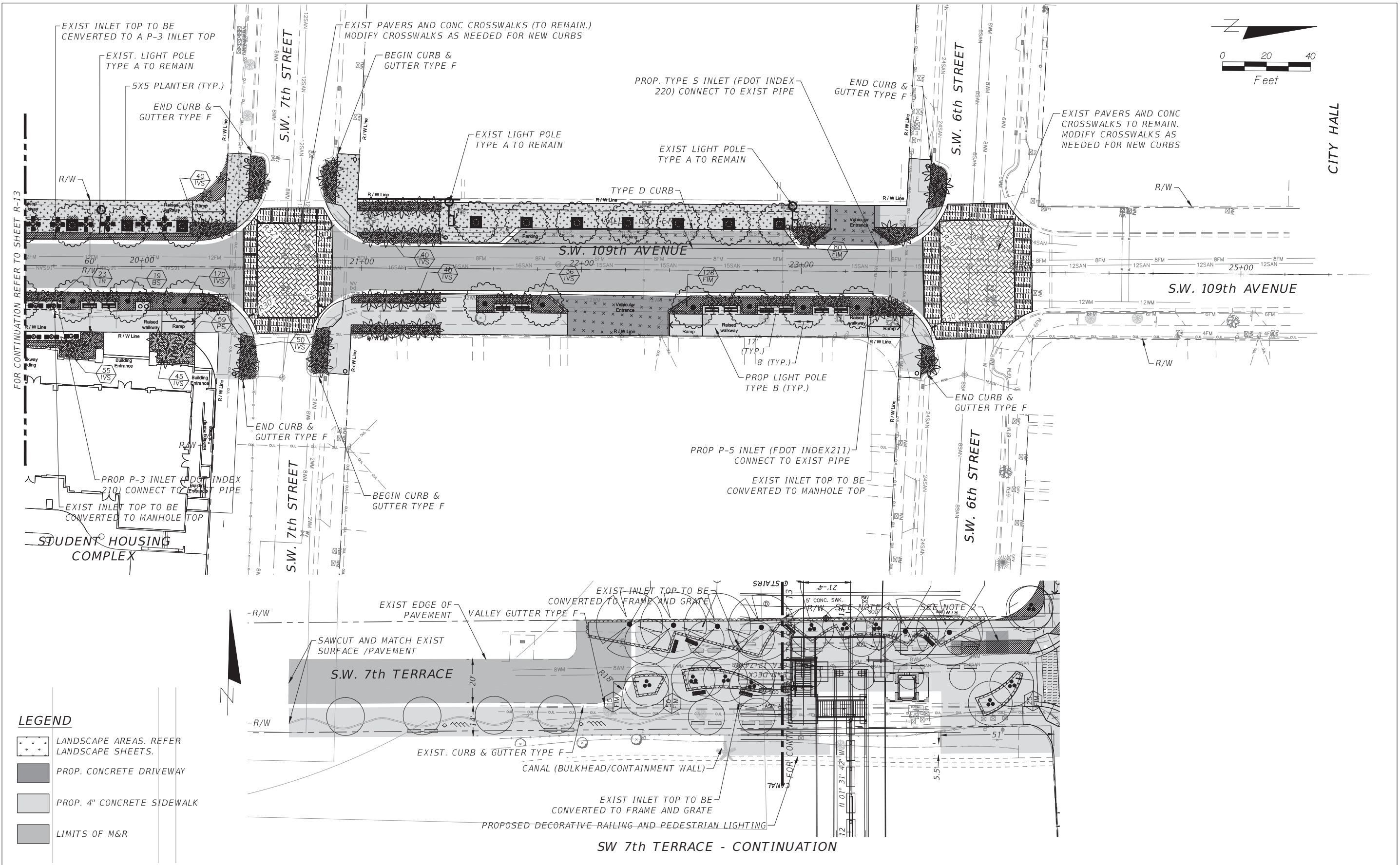
UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTHORIZATION EB-0007797

DRAWN BY:	<b>MCM</b>	<b>FIGG</b>	<b>FIU</b>	FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:	DESIGN-BUILD TEAM			
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID	
CHECKED BY:	MIAMI-DADE	BT-904		

SHEET TITLE: <b>COMPLETE STREET, US-41 INTERSECTION (FIU- SWEETWATER)</b>	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>
SHEET NO. <b>R-13</b>	

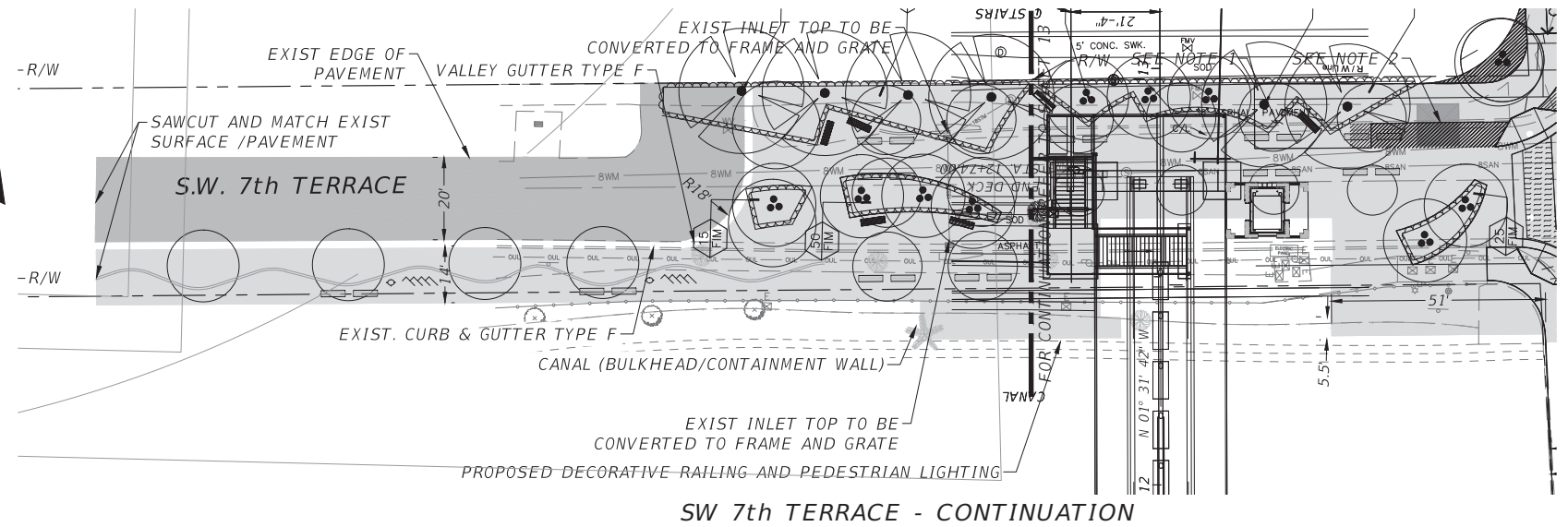
Filename: P:\Technical\Proposal\FIU Pedestrian Bridge\CADD\archive\Roadway\PLANS - Plot Date: Sep. 28, 15





**LEGEND**

	LANDSCAPE AREAS. REFER LANDSCAPE SHEETS.
	PROP. CONCRETE DRIVEWAY
	PROP. 4" CONCRETE SIDEWALK
	LIMITS OF M&R



**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

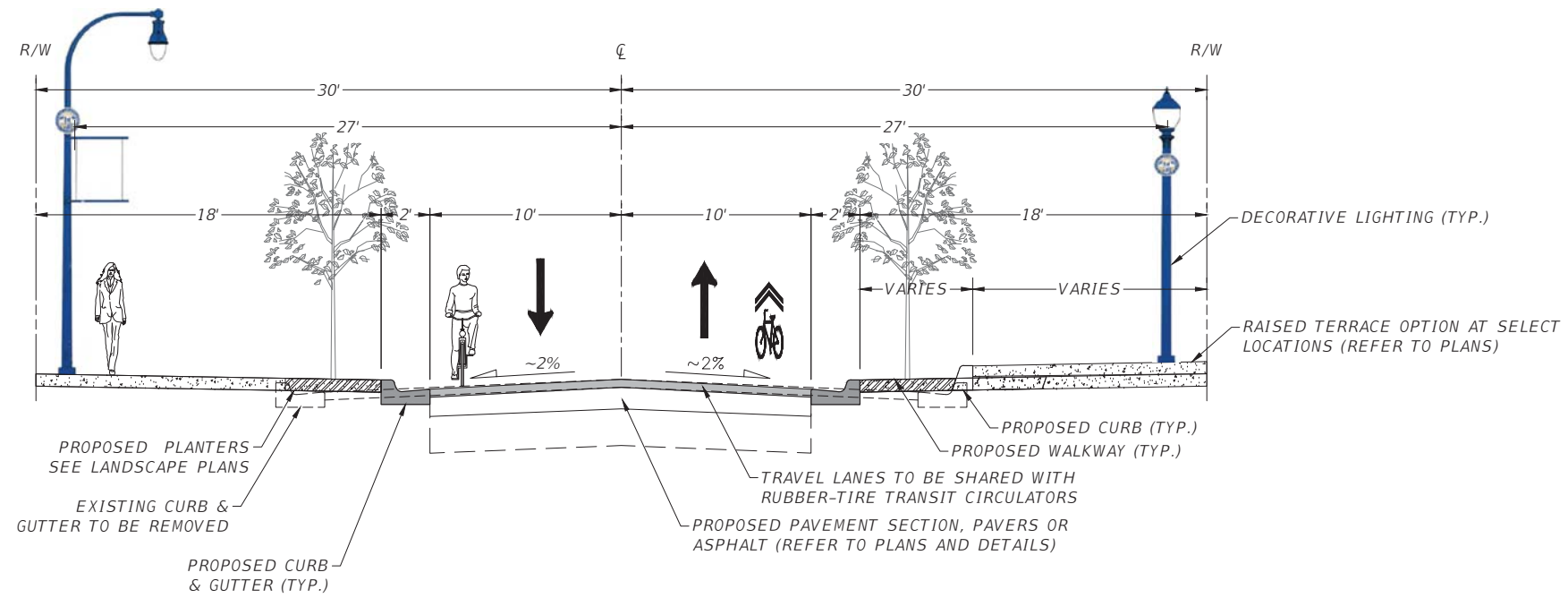
UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:			
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:		MIAMI-DADE	BT-904

SHEET TITLE:	COMPLETE STREET SWEETWATER SECTION	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO. R-14

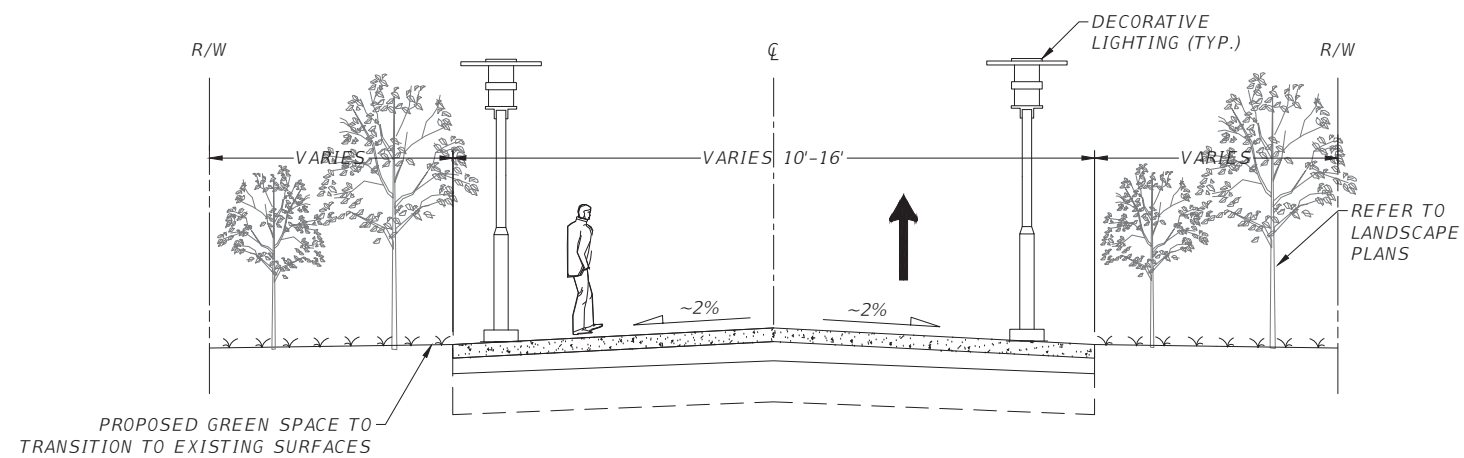
NOT FOR CONSTRUCTION PLANS





**SW 109TH AVE FROM 7TH TERR TO 6TH ST  
TYPICAL SECTION FOR COMPLETE STREET WITHIN CITY OF SWEETWATER**

NTS



**TYPICAL SECTION FOR COMPLETE STREET  
THROUGH FIU GREEN SPACES**

NTS

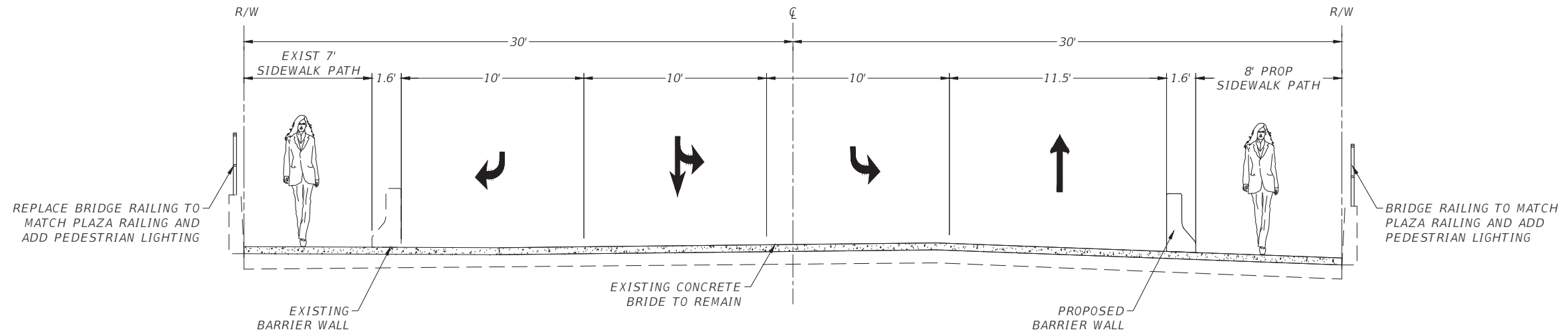
**NOTE:**

FIU TRANSIT GREENWAY TO BE  
CONSTRUCTED WITHIN UNIVERSITY R/W



NOT FOR CONSTRUCTION PLANS

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTHORIZATION EB-0007797	DRAWN BY:					SHEET TITLE:
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:	SHEET NO.
									MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT	R-15



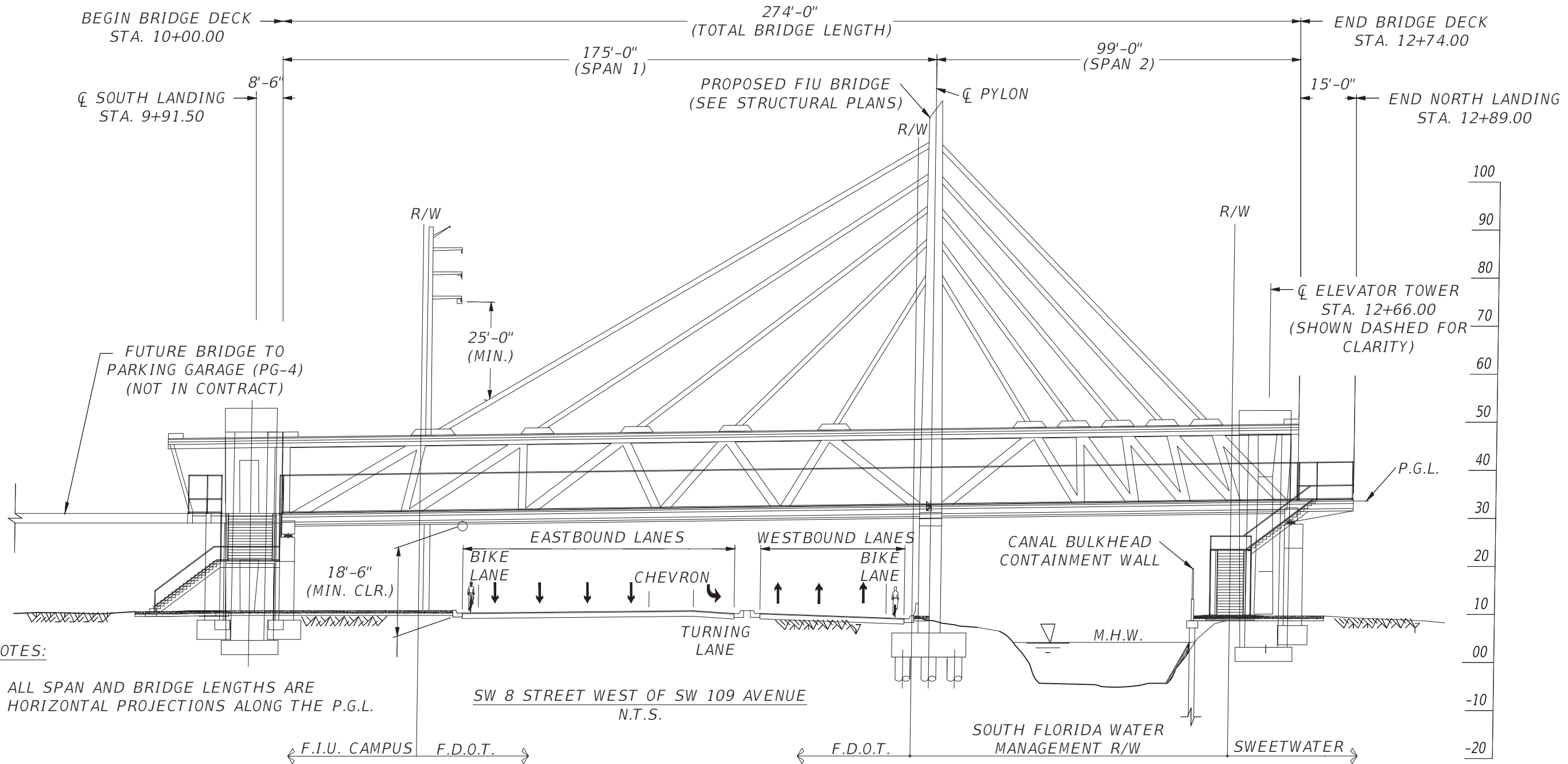
**SW 109TH AVE BRIDGE SECTION FROM 8TH STREET TO 7TH TERR**  
NTS



NOT FOR CONSTRUCTION PLANS

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY:					SHEET TITLE:
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:	SHEET NO.
									MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT	R-16





**NOTES:**

1. ALL SPAN AND BRIDGE LENGTHS ARE HORIZONTAL PROJECTIONS ALONG THE P.G.L.



REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			
CHECKED BY:			
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:	MIAMI-DADE		BT-904

SHEET TITLE:		TYPICAL SECTION	
PROJECT NAME:		UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:			R-17

NOT FOR CONSTRUCTION PLANS



APROX AREA: 64,724 sf

UNIVERSITYCITY IMPROVEMENTS WITHIN SWEETWATER AND/OR SFWMD R/W

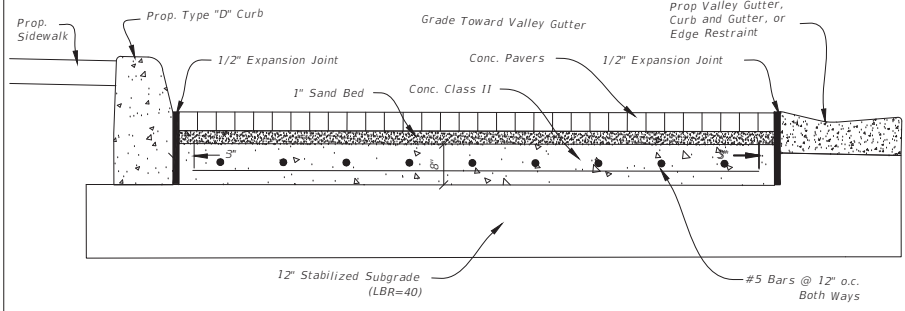


APROX AREA: 23,277 sf

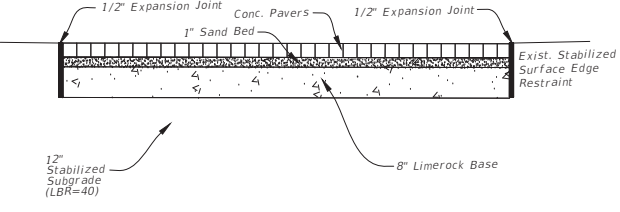
BROTHERS TO THE RESCUE MEMORIAL PLAZA AREA IN THE UNIVERSITYCITY

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	DRAWN BY: CHECKED BY: DESIGNED BY: CHECKED BY:				SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	PROJECT ID	SWEETWATER RIGHT OF WAY UNIVERSITYCITY PROSPERITY PROJECT	

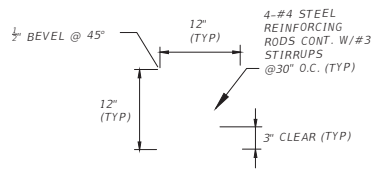




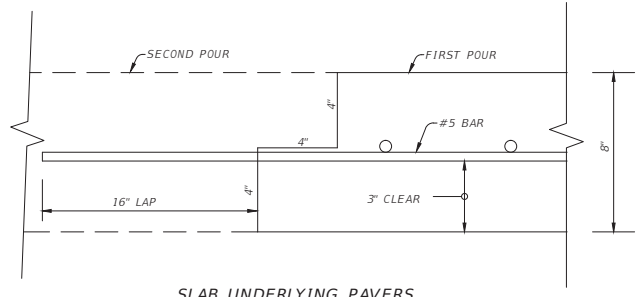
**VEHICULAR BRICK PAVER INSTALLATION**  
N.T.S.



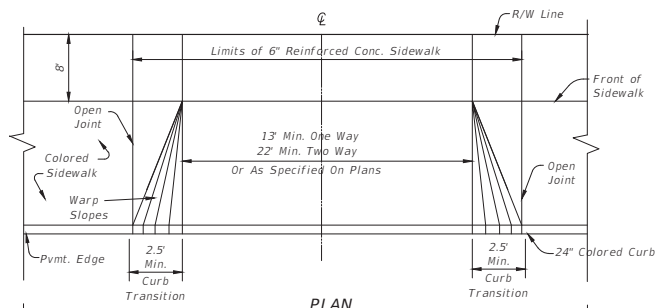
**TYPICAL PEDESTRIAN ONLY PAVERS INSTALLATION**  
N.T.S.



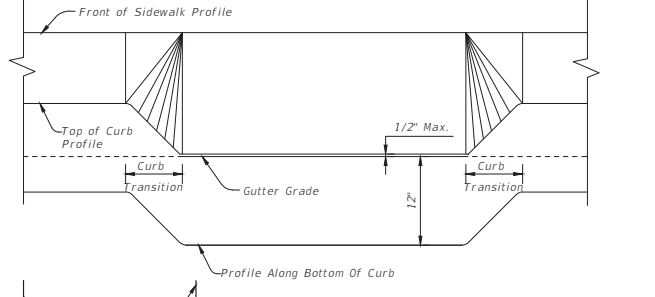
**12'X12" CONCRETE CAST IN PLACE EDGE RESTRAINTS**  
N.T.S.



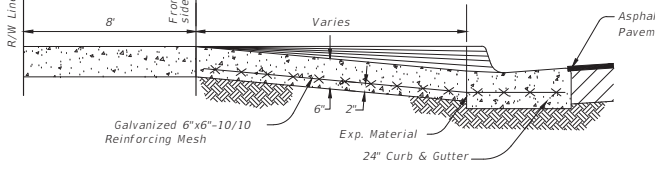
**SLAB UNDERLYING PAVERS CONSTRUCTION JOINT DETAIL**  
N.T.S.



**PLAN**

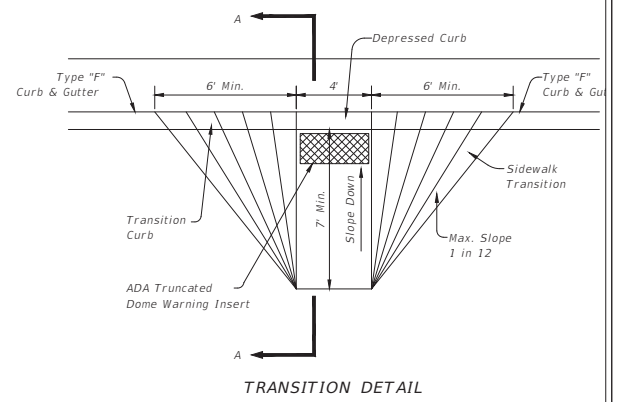


**PROFILE**

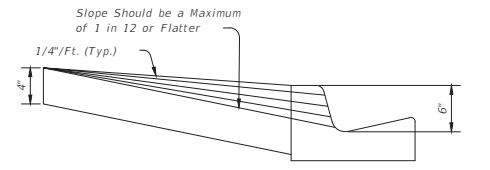


**SECTION**

**TYPICAL CONCRETE DRIVEWAY WITH CURB & GUTTER**  
N.T.S.

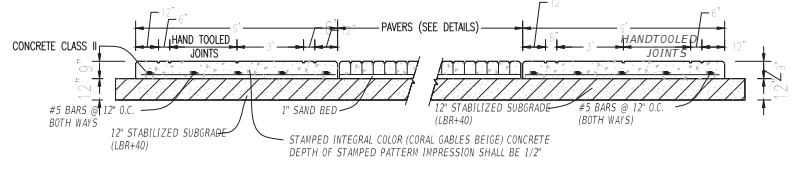
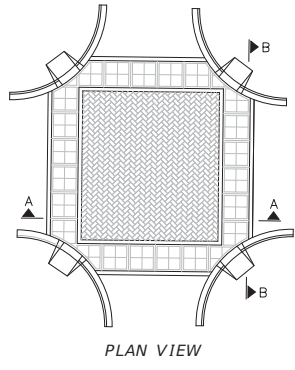


**TRANSITION DETAIL**  
N.T.S.

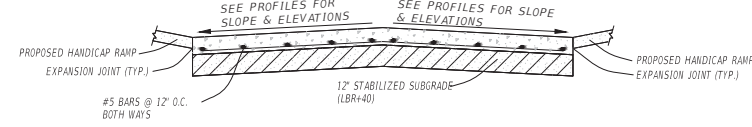


**SECTION "A-A"**

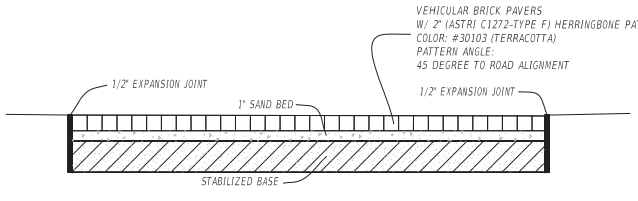
**HANDICAP RAMP DETAIL**  
N.T.S.



**SECTION A-A**

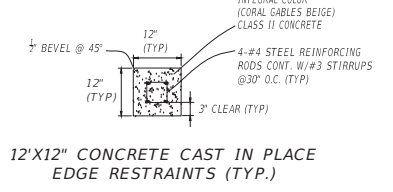


**SECTION B-B**

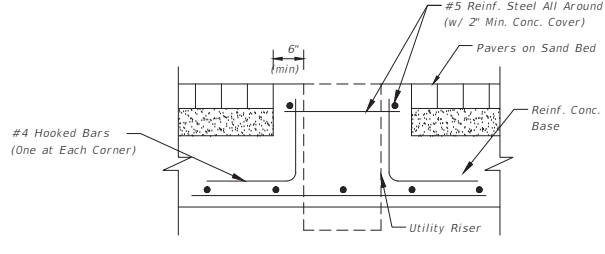


**PAVERS DETAIL**

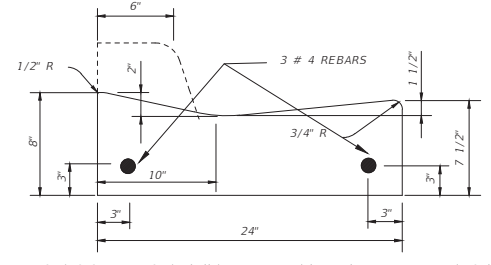
**TYPICAL PAVERS INTERSECTION DETAILS**  
N.T.S.



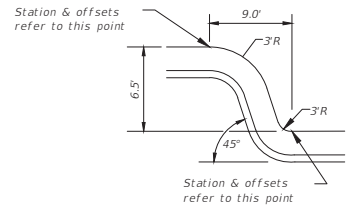
**12'X12" CONCRETE CAST IN PLACE EDGE RESTRAINTS (TYP.)**



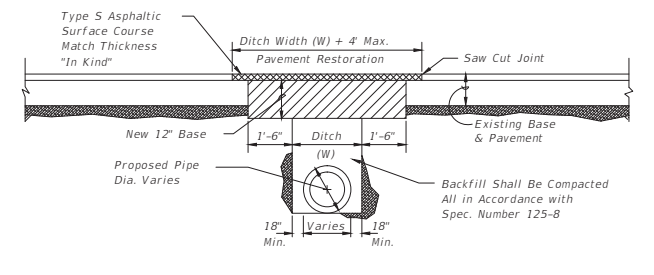
**CONCRETE COLLAR AROUND UTILITY MANHOLES OR VALVE BOX COVERS IN PAVER AREAS**  
N.T.S.



**DRIVEWAY CURB & GUTTER**  
N.T.S.



**TYPICAL RETURN DETAIL**



**PAVEMENT RESTORATION DETAIL**  
N.T.S.

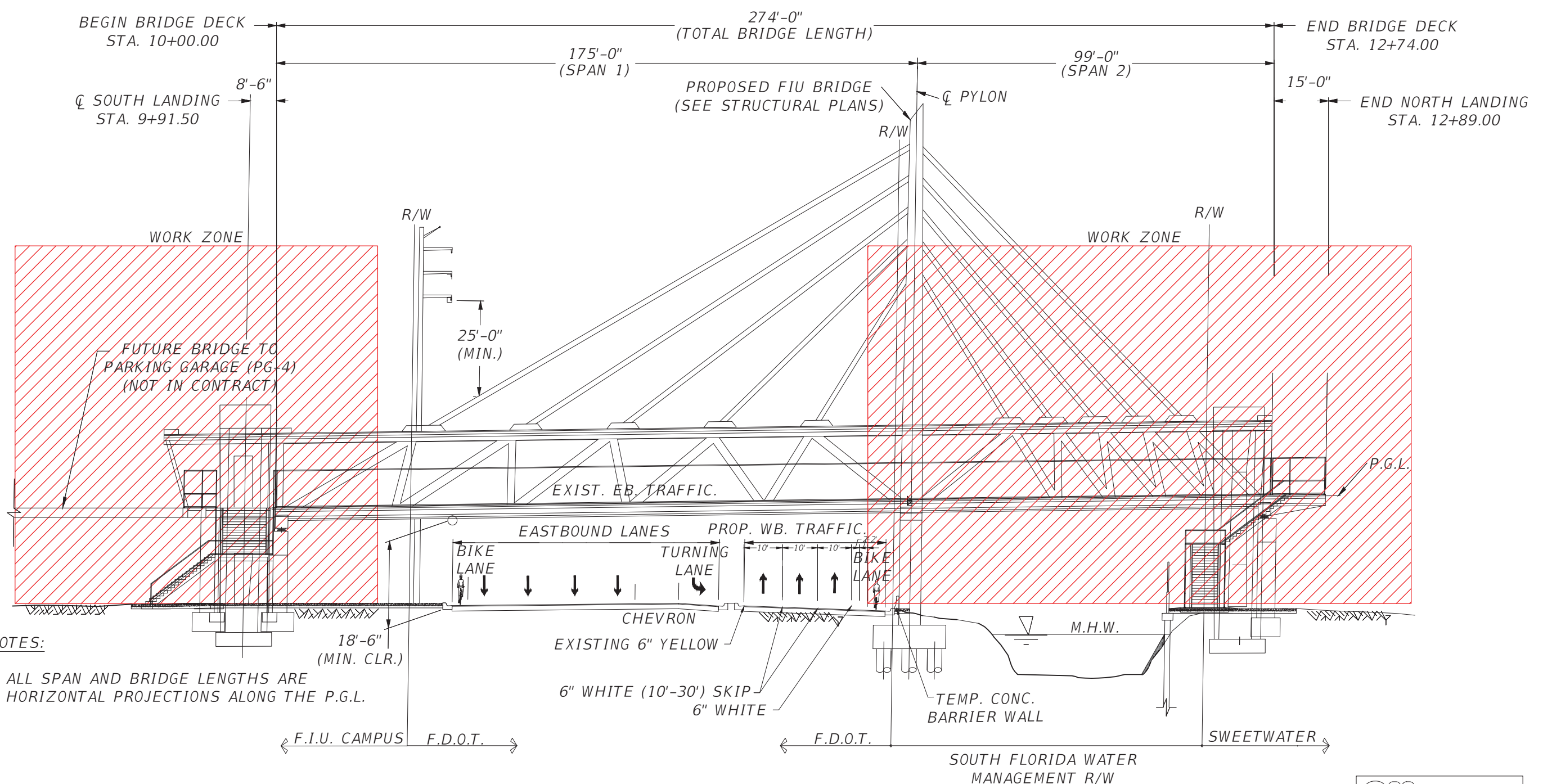
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
PE LICENSE No. 40167  
A&P CONSULTING TRANSPORTATION ENGINEERS CORP.  
10305 N.W. 41 STREET, SUITE 115  
MIAMI, FL 33178  
CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY: MCM + FIGG  
CHECKED BY: DESIGN-BUILD TEAM  
DESIGNED BY: ROAD NO. COUNTY PROJECT ID  
CHECKED BY: MIAMI-DADE BT-904

SHEET TITLE: COMPLETE STREET DETAILS  
PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT  
SHEET NO.: R-19

NOT FOR CONSTRUCTION PLANS



**NOTES:**

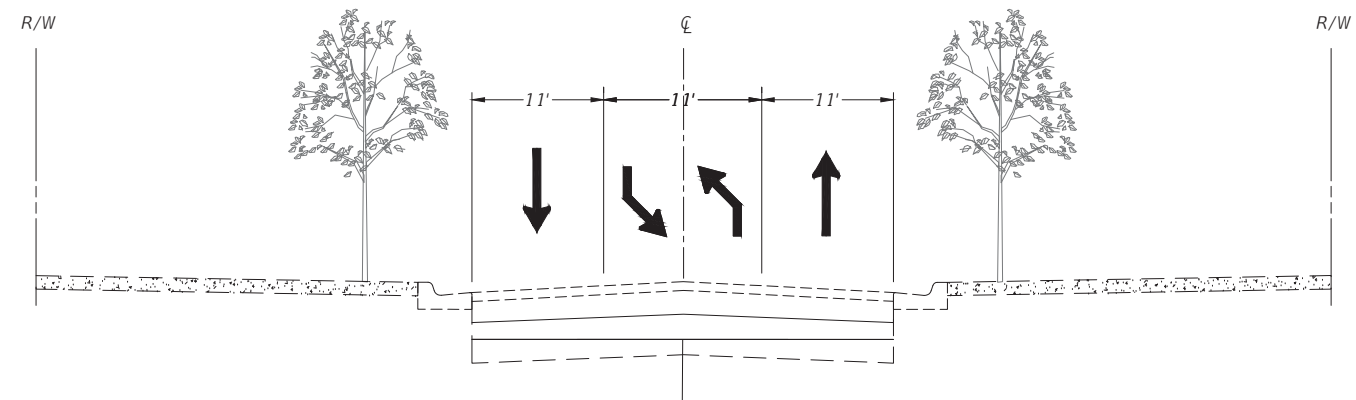
1. ALL SPAN AND BRIDGE LENGTHS ARE HORIZONTAL PROJECTIONS ALONG THE P.G.L.



REVISIONS						DRAWN BY: MCM + FIGG DESIGN-BUILD TEAM	SHEET TITLE: MAINTENANCE OF TRAFFIC PLANS
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION		
						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797	ROAD NO. COUNTY PROJECT ID MIAMI-DADE BT-904
PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT							SHEET NO. <b>M-01</b>

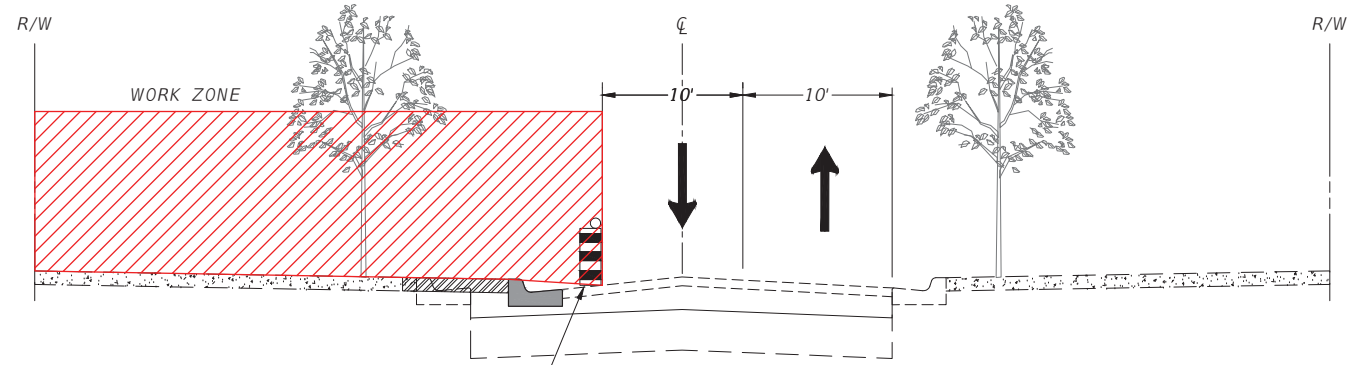
NOT FOR CONSTRUCTION PLANS





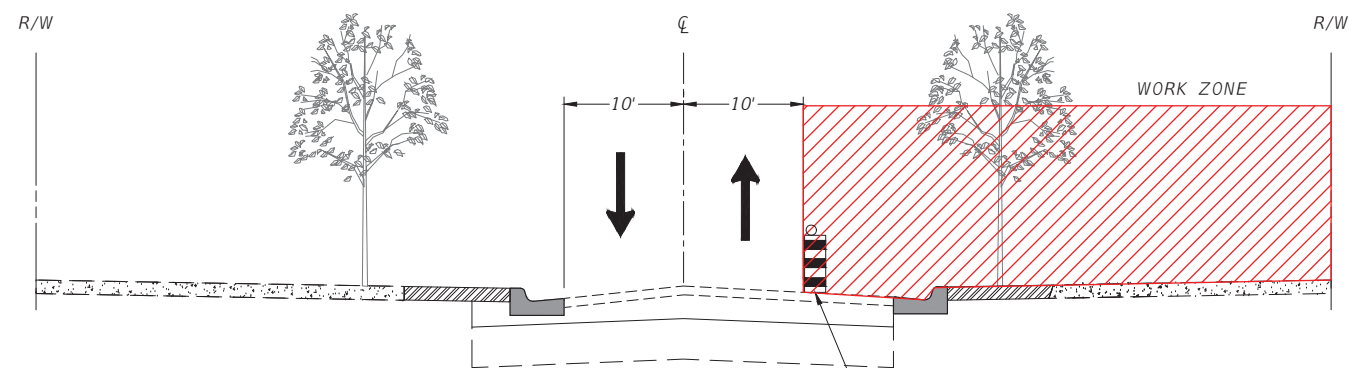
SW 109TH AVE  
EXISTING TYPICAL SECTION

NTS



PHASE II  
SW 109TH AVE  
STA 16+45 (+/-) TO STA 23+60(+/-)

NTS



PHASE III  
SW 109TH AVE  
STA 16+45 (+/-) TO STA 23+60(+/-)

NTS



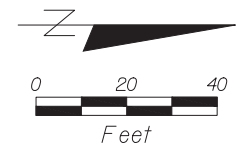
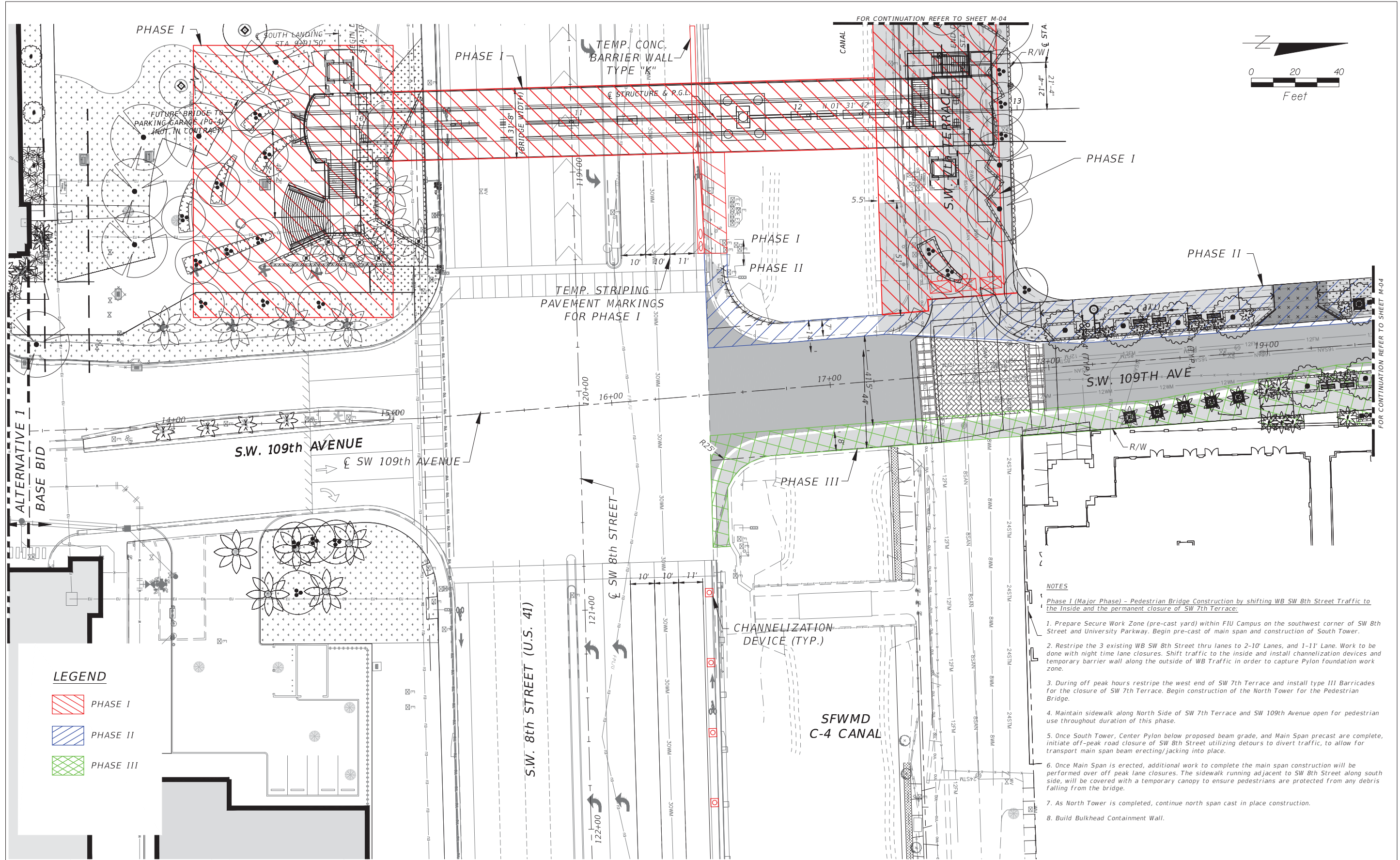
NOT FOR CONSTRUCTION PLANS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
PE LICENSE No. 40167  
A&P CONSULTING TRANSPORTATION  
ENGINEERS CORP.  
10305 N.W. 41 STREET, SUITE 115  
MIAMI, FL 33178  
CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			FLORIDA INTERNATIONAL UNIVERSITY
CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID
DESIGNED BY:		MIAMI-DADE	BT-904
CHECKED BY:			

SHEET TITLE:		MAINTENANCE OF TRAFFIC PLAN	
PROJECT NAME:		UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.			M-02



**LEGEND**

- PHASE I
- PHASE II
- PHASE III

**NOTES**

- Phase I (Major Phase) - Pedestrian Bridge Construction by shifting WB SW 8th Street Traffic to the Inside and the permanent closure of SW 7th Terrace.
1. Prepare Secure Work Zone (pre-cast yard) within FIU Campus on the southwest corner of SW 8th Street and University Parkway. Begin pre-cast of main span and construction of South Tower.
  2. Restripe the 3 existing WB SW 8th Street thru lanes to 2-10' Lanes, and 1-11' Lane. Work to be done with night time lane closures. Shift traffic to the inside and install channelization devices and temporary barrier wall along the outside of WB Traffic in order to capture Pylon foundation work zone.
  3. During off peak hours restripe the west end of SW 7th Terrace and install type III Barricades for the closure of SW 7th Terrace. Begin construction of the North Tower for the Pedestrian Bridge.
  4. Maintain sidewalk along North Side of SW 7th Terrace and SW 109th Avenue open for pedestrian use throughout duration of this phase.
  5. Once South Tower, Center Pylon below proposed beam grade, and Main Span precast are complete, initiate off-peak road closure of SW 8th Street utilizing detours to divert traffic, to allow for transport main span erecting/jacking into place.
  6. Once Main Span is erected, additional work to complete the main span construction will be performed over off peak lane closures. The sidewalk running adjacent to SW 8th Street along south side, will be covered with a temporary canopy to ensure pedestrians are protected from any debris falling from the bridge.
  7. As North Tower is completed, continue north span cast in place construction.
  8. Build Bulkhead Containment Wall.

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

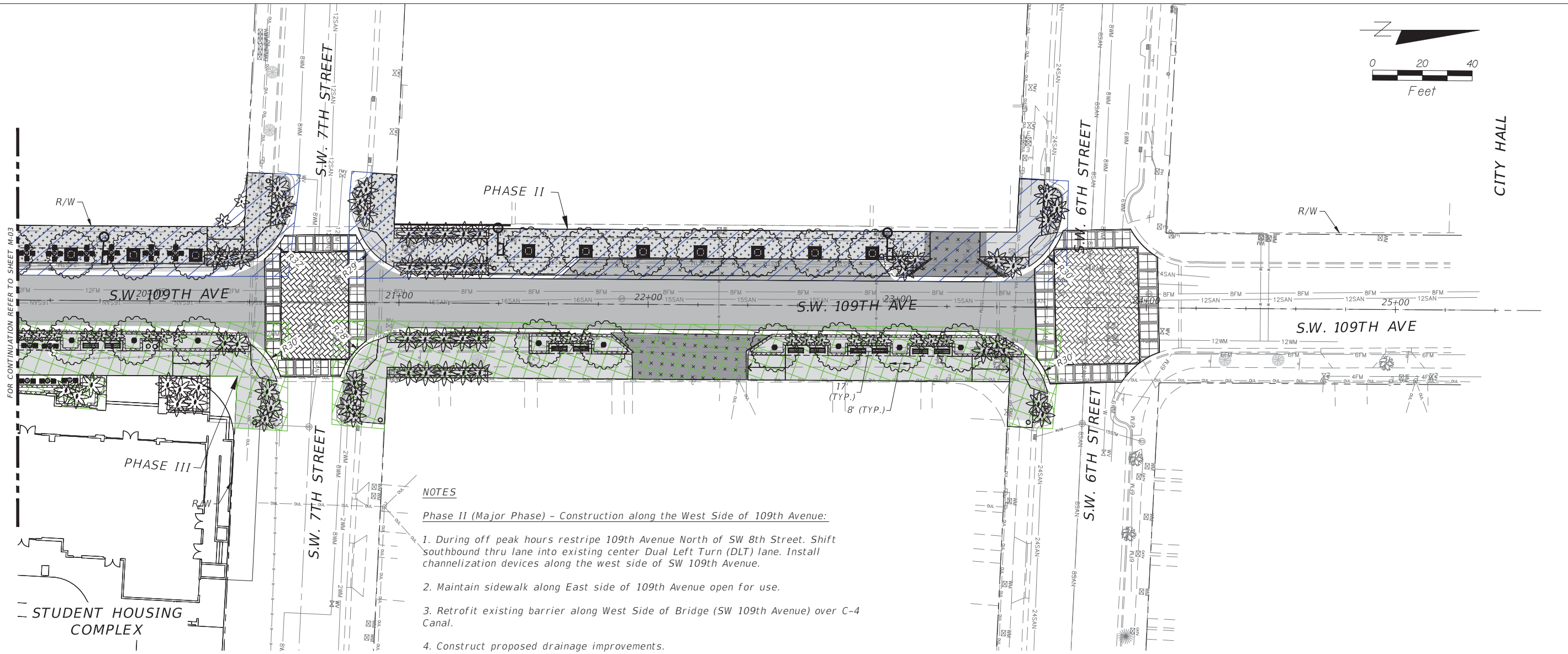
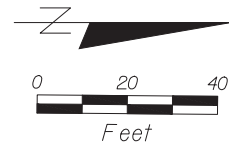
UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			
CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID
DESIGNED BY:			
CHECKED BY:	MIAMI-DADE		BT-904

SHEET TITLE:	MAINTENANCE OF TRAFFIC PLANS		
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT		
SHEET NO.:	M-03		

NOT FOR CONSTRUCTION PLANS





**NOTES**

Phase II (Major Phase) - Construction along the West Side of 109th Avenue:

1. During off peak hours restripe 109th Avenue North of SW 8th Street. Shift southbound thru lane into existing center Dual Left Turn (DLT) lane. Install channelization devices along the west side of SW 109th Avenue.
2. Maintain sidewalk along East side of 109th Avenue open for use.
3. Retrofit existing barrier along West Side of Bridge (SW 109th Avenue) over C-4 Canal.
4. Construct proposed drainage improvements.
5. Install proposed lighting.
6. Construct proposed curbs and sidewalk. Install landscaping in planter areas.
7. Complete work along SW 7th Terrace, west of 109th Avenue.

Phase III (Major Phase) - Construction along the East Side of SW 109th Avenue:

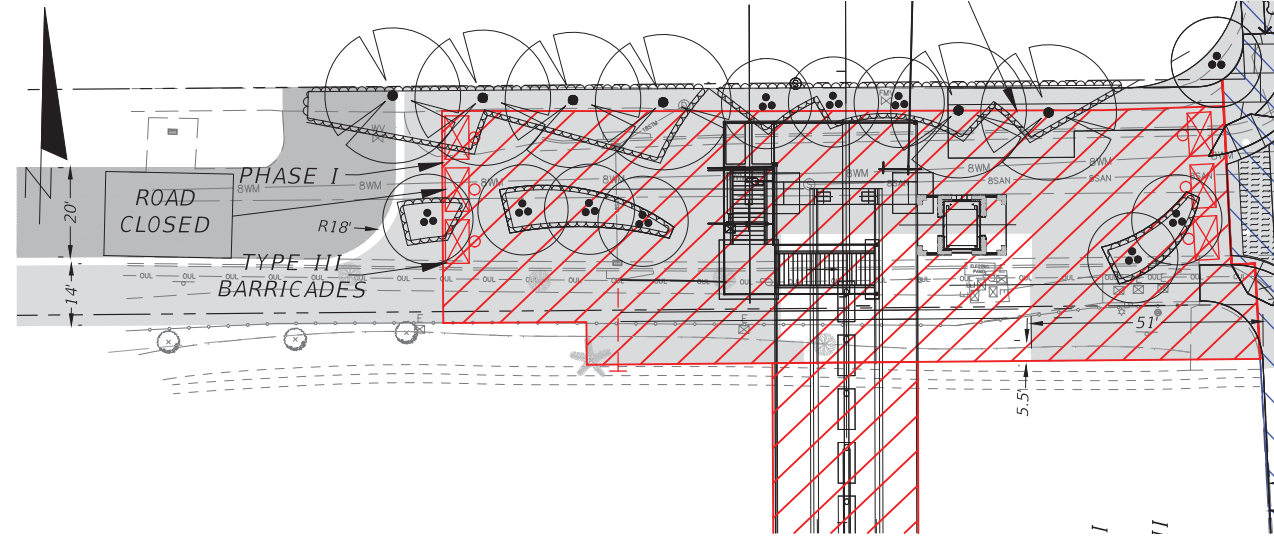
1. Open sidewalk along the west side of SW 109th Avenue, connecting to hardscape built with North Tower.
2. Restripe 109th Avenue and Shift traffic West.
3. Install Channelization Devices along East side of SW 109th Avenue.
4. Construct proposed barrier wall and retrofit existing bridge barrier (109th Avenue) along East side of Bridge (SW 109th Avenue) over C-4 Canal.
5. Construct proposed drainage improvements along East side of 109th Avenue.
6. Install proposed curbs and sidewalk. Install landscaping in planter areas.

Phase III-B (Minor Phase) - Milling and Resurfacing and Final Striping:

1. Complete Milling and Resurfacing and final striping.

**LEGEND**

- PHASE I
- PHASE II
- PHASE III



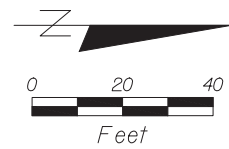
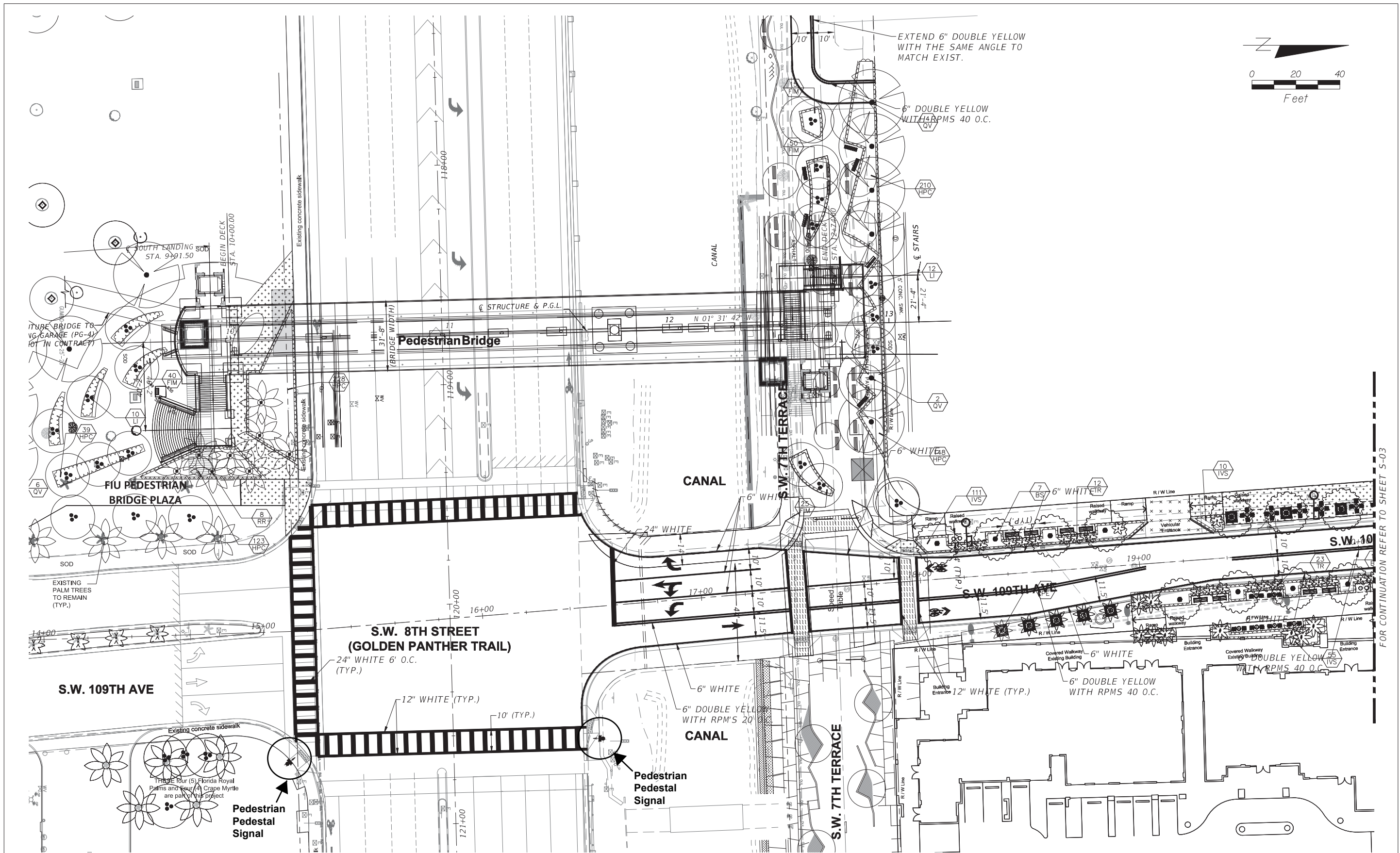
SW 7th TERRACE - CONTINUATION

NOT FOR CONSTRUCTION PLANS

REVISIONS				DATE		BY		DESCRIPTION	

UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTORIZATION EB-0007797			DRAWN BY: 	SHEET TITLE: <b>MAINTENANCE OF TRAFFIC PLANS</b>
CHECKED BY: 	ROAD NO. <b>MIAMI-DADE</b>	COUNTY <b>MIAMI-DADE</b>	PROJECT ID <b>BT-904</b>	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>
DESIGNED BY:	SHEET NO. <b>M-04</b>			





FOR CONTINUATION REFER TO SHEET S-03

NOT FOR CONSTRUCTION PLANS

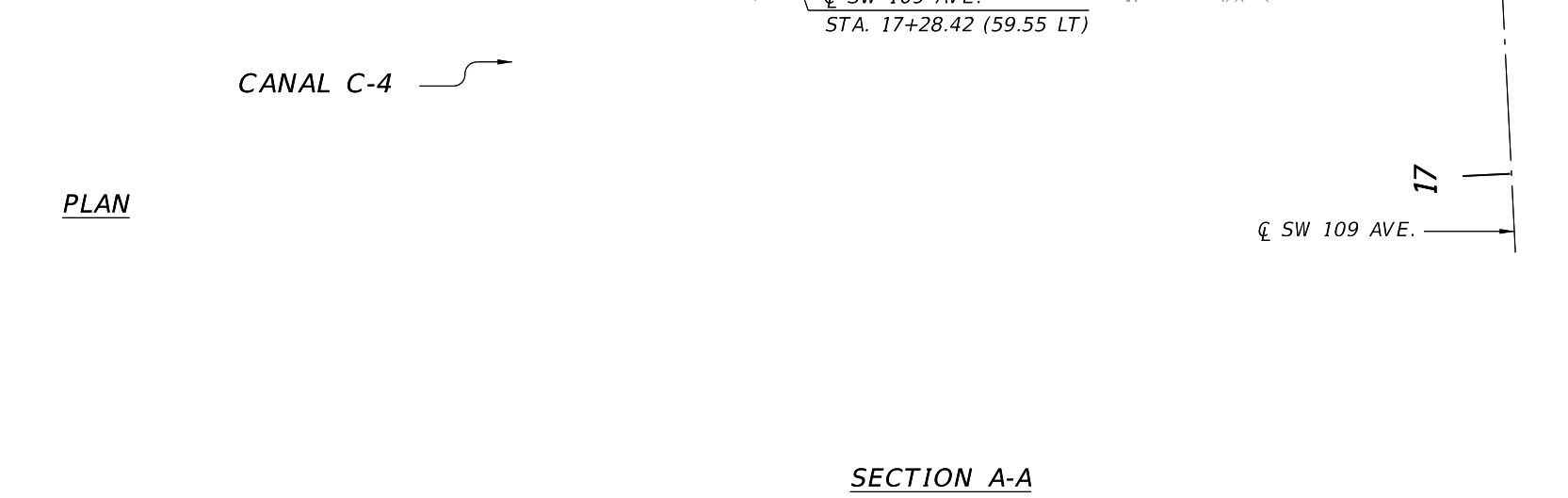
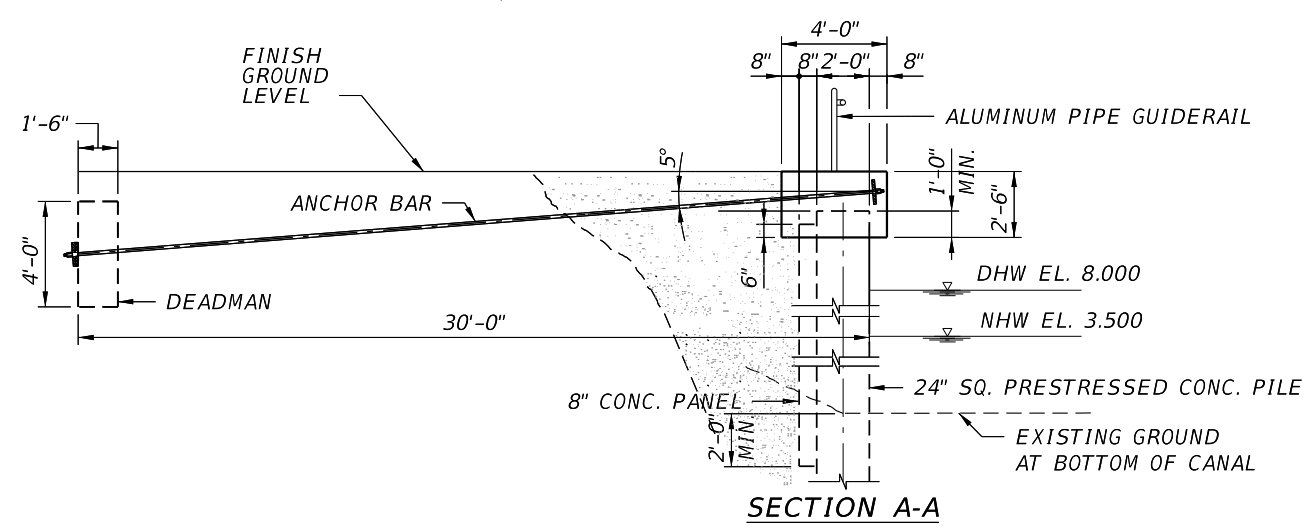
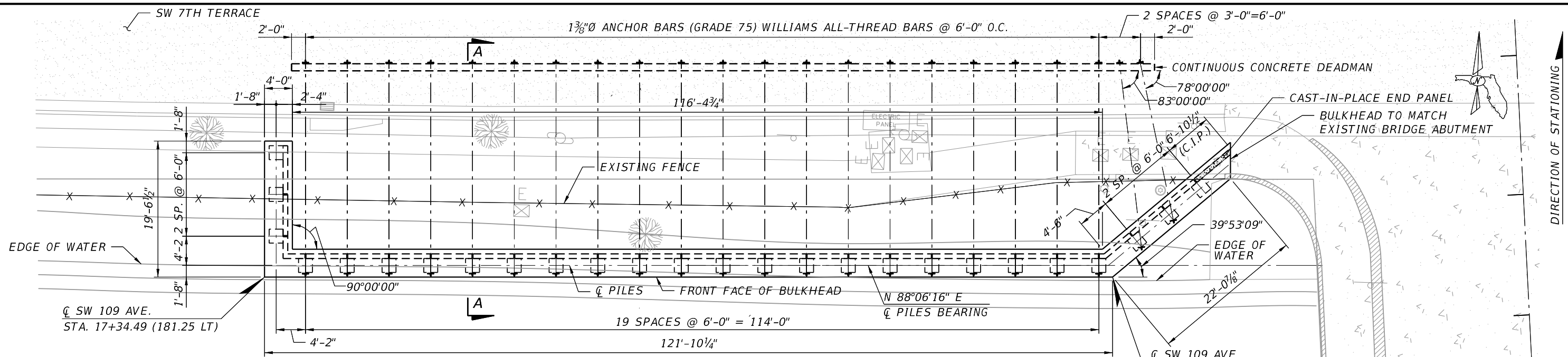
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			
CHECKED BY:	ROAD NO.	COUNTY	PROJECT ID
DESIGNED BY:	MIAMI-DADE		BT-904
CHECKED BY:			

SHEET TITLE:	SIGNING & PAVEMENT MARKING PLANS	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	S-02	





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

OSMANY ALFONSO, PE  
 PE LICENSE NO. 61601  
 A&P CONSULTING TRANSPORTATION ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FLORIDA 33178  
 CERTIFICATE OF AUTHORIZATION EB-0007797

DRAWN BY: JAR  
 CHECKED BY: OA  
 DESIGNED BY: OA  
 CHECKED BY: AA

**MCM+FIGG**  
 DESIGN-BUILD TEAM

**FIU**  
 FLORIDA INTERNATIONAL UNIVERSITY

ROAD NO.	COUNTY	PROJECT ID
	MIAMI - DADE	BT - 904

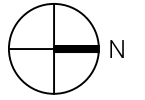
SHEET TITLE: CANAL C-4 (BULKHEAD/CONTAINMENT WALL)

PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT

SHEET NO.: BH-01

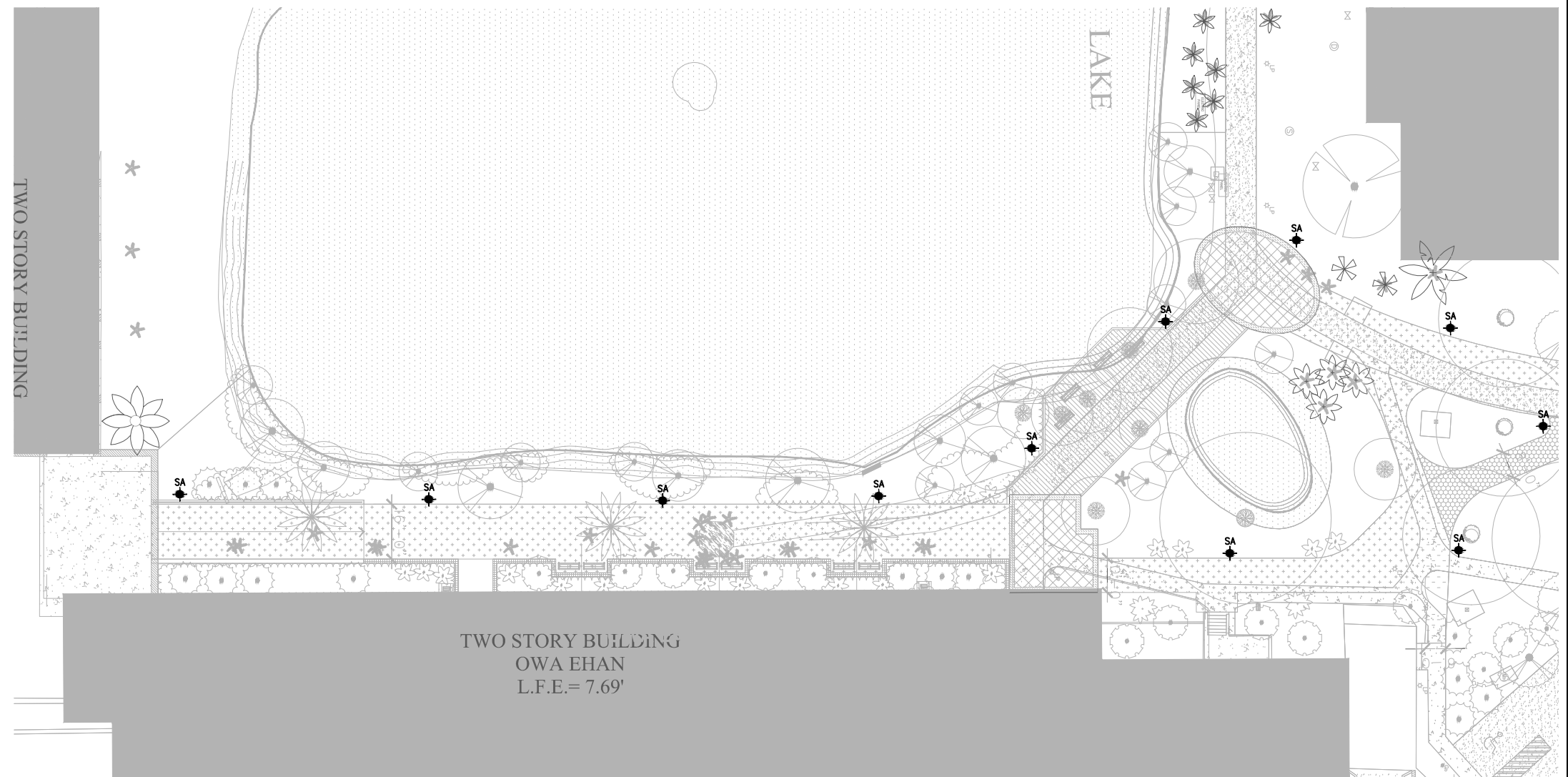
NOT FOR CONSTRUCTION PLANS

**NOTE:**  
 ALL FIXTURES THIS PAGE TO BE BID AS AN  
 ADD ALTERNATE



**FIXTURE SYMBOL LEGEND**

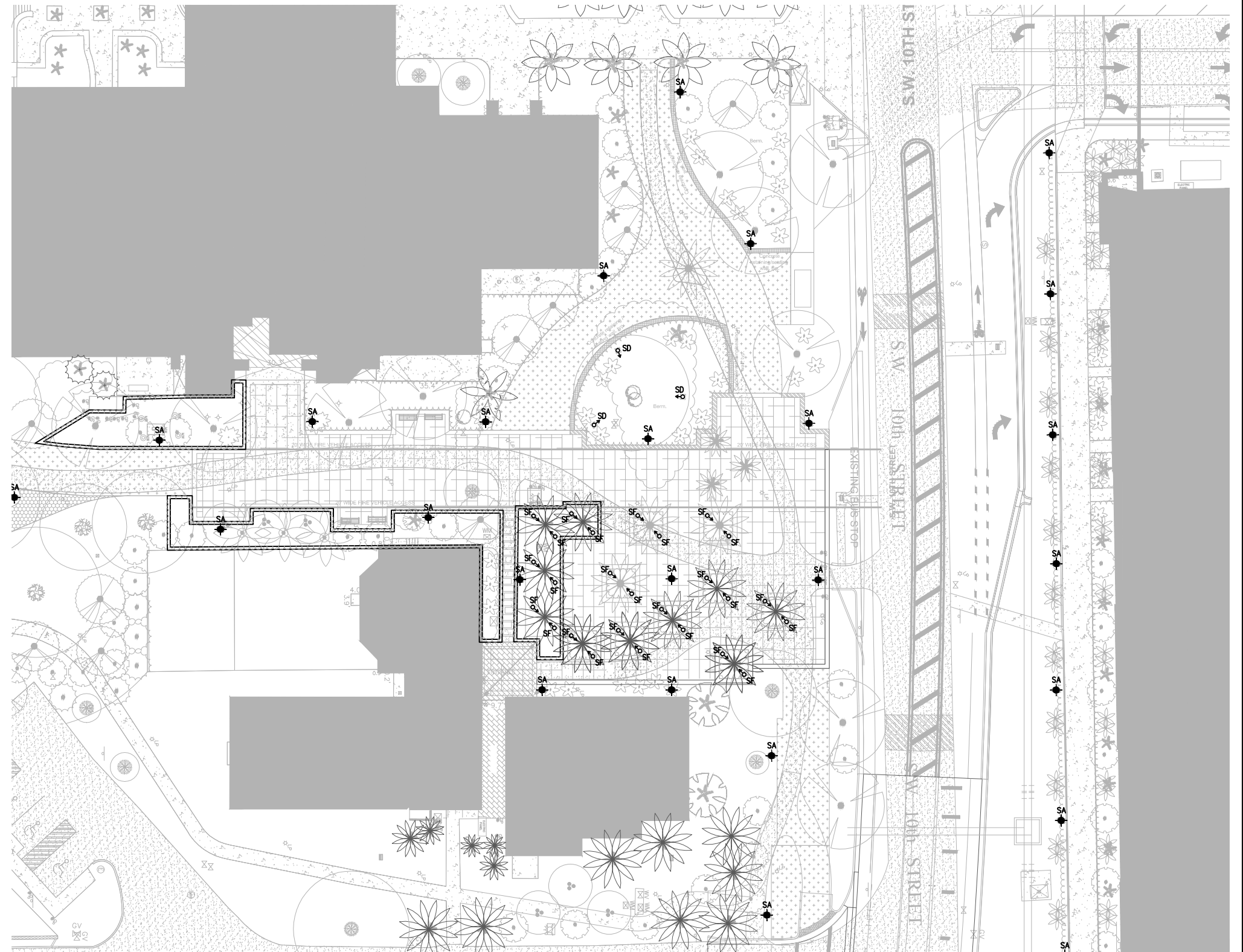
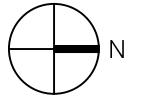
- SA UNIVERSITY STANDARD PEDESTRIAN LUMINAIRE
- SB SWEETWATER STANDARD PEDESTRIAN LUMINAIRE (SEE L-09, TYPE B)
- SC MID-POWER LED DIRECT BURIAL ACCENT LIGHT
- SD HIGH-POWER LED DIRECT BURIAL ACCENT LIGHT
- SF LOW-POWER LED DIRECT BURIAL ACCENT LIGHT
- SK LED STEPLIGHT RECESSED INTO STAIR RISER



REVISIONS						LIGHTING DESIGNER: <b>RANDY BURKETT</b> LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: <b>RE</b> CHECKED BY: <b>RK</b> DESIGNED BY: <b>RK</b> CHECKED BY: <b>RB</b>				SHEET TITLE: <b>SITE LIGHTING PLAN</b>	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:	SHEET NO.
										MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT



**NOTE:**  
 ALL FIXTURES THIS PAGE TO BE BID AS AN  
 ADD ALTERNATE



**FIXTURE SYMBOL LEGEND**

SA	◆	UNIVERSITY STANDARD PEDESTRIAN LUMINAIRE
SB	◆	SWEETWATER STANDARD PEDESTRIAN LUMINAIRE - TYPE B (SEE L-08)
SC	↻	MID-POWER LED DIRECT BURIAL ACCENT LIGHT
SD	↻	HIGH-POWER LED DIRECT BURIAL ACCENT LIGHT
SF	↻	LOW-POWER LED DIRECT BURIAL ACCENT LIGHT
SK	◆	LED STEPLIGHT RECESSED INTO STAIR RISER

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:  
**RANDY BURKETT**  
 LIGHTING DESIGN  
 609 E. Lockwood Ave., Suite 201  
 St. Louis, Missouri 63119

DRAWN BY: <b>RE</b>		ROAD NO.	COUNTY	PROJECT ID
CHECKED BY: <b>RK</b>				
DESIGNED BY: <b>RK</b>				
CHECKED BY: <b>RB</b>		MIAMI-DADE	BT-904	

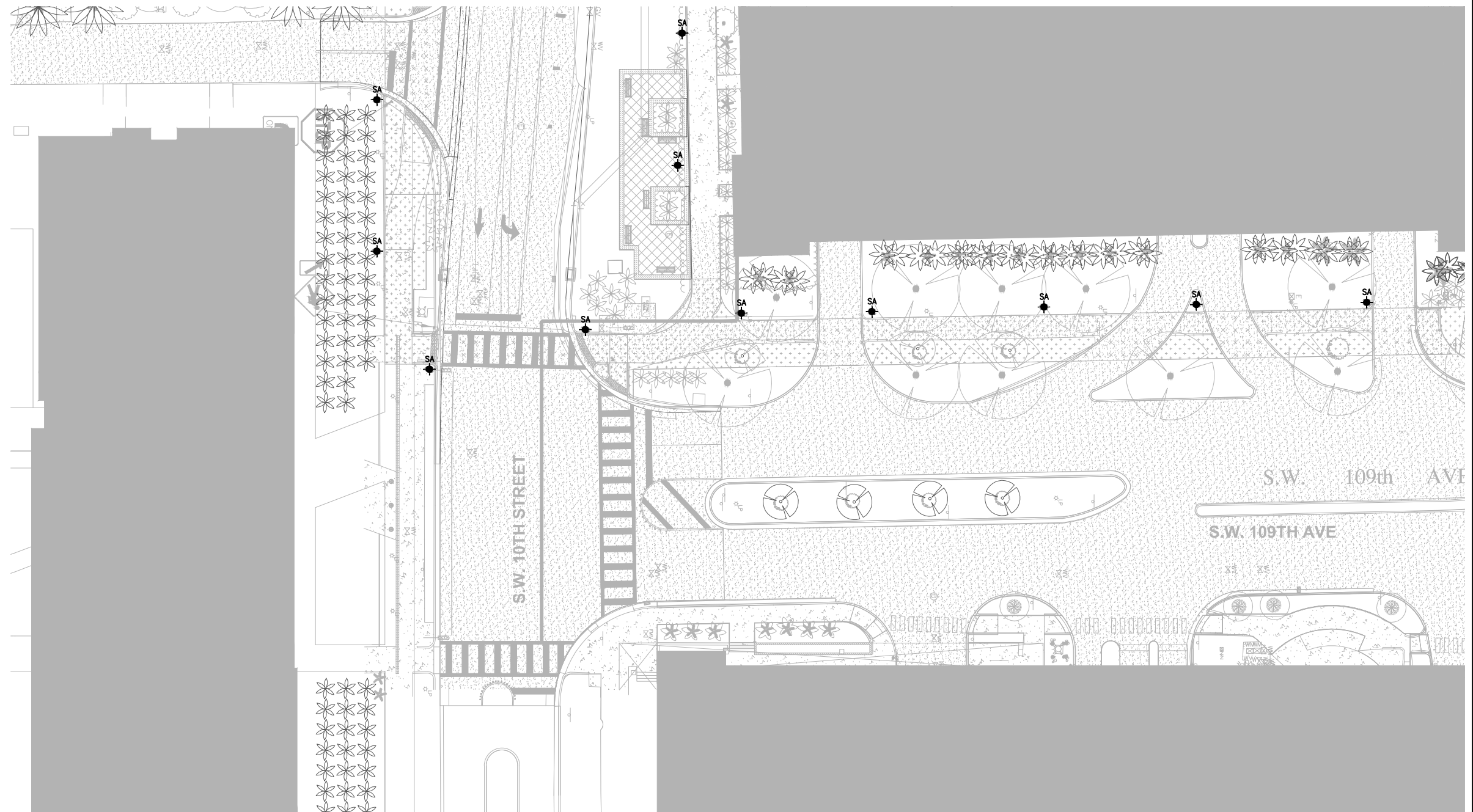
SHEET TITLE: <b>SITE LIGHTING PLAN</b>		PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO. L-02
PROJECT ID: BT-904			

**NOTE:**  
 ALL FIXTURES THIS PAGE TO BE BID AS AN  
 ADD ALTERNATE



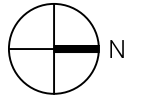
**FIXTURE SYMBOL LEGEND**

- SA ◆ UNIVERSITY STANDARD PEDESTRIAN LUMINAIRE
- SB ◆ SWEETWATER STANDARD PEDESTRIAN LUMINAIRE - TYPE B (SEE L-08)
- SC ⇨ MID-POWER LED DIRECT BURIAL ACCENT LIGHT
- SD ⇨ HIGH-POWER LED DIRECT BURIAL ACCENT LIGHT
- SF ⇨ LOW-POWER LED DIRECT BURIAL ACCENT LIGHT
- SK ◆ LED STEPLIGHT RECESSED INTO STAIR RISER



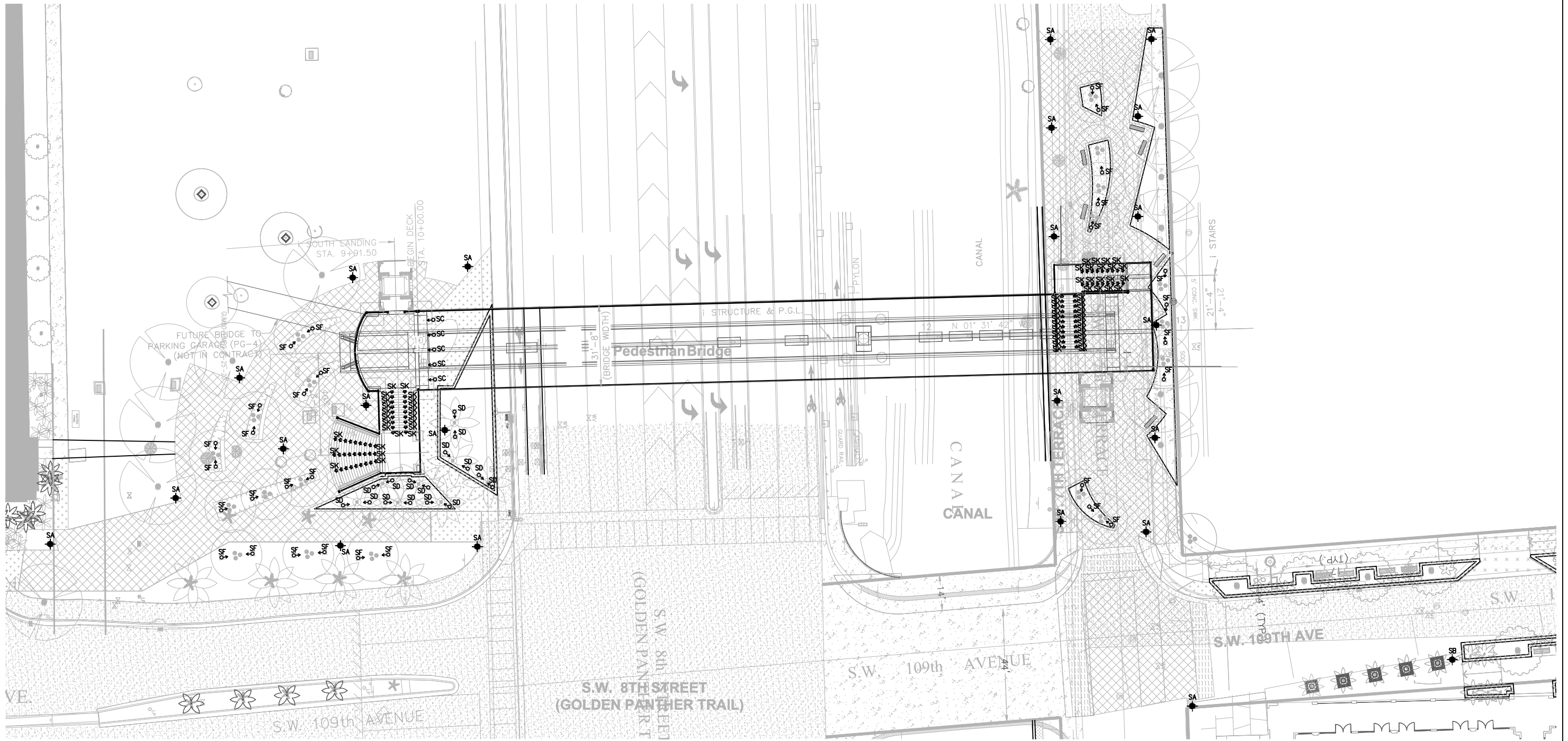
REVISIONS						LIGHTING DESIGNER: <b>RANDY BURKETT</b> LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: <b>RE</b> CHECKED BY: <b>RK</b> DESIGNED BY: <b>RK</b> CHECKED BY: <b>RB</b>		SHEET TITLE:			SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY	PROJECT ID	
<b>SITE LIGHTING PLAN</b>												
UNIVERSITYCITY PROSPERITY PROJECT										L-03		



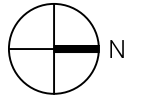


**FIXTURE SYMBOL LEGEND**

- SA UNIVERSITY STANDARD PEDESTRIAN LUMINAIRE
- SB SWEETWATER STANDARD PEDESTRIAN LUMINAIRE - TYPE B (SEE L-08)
- SC MID-POWER LED DIRECT BURIAL ACCENT LIGHT
- SD HIGH-POWER LED DIRECT BURIAL ACCENT LIGHT
- SF LOW-POWER LED DIRECT BURIAL ACCENT LIGHT
- SK LED STEPLIGHT RECESSED INTO STAIR RISER

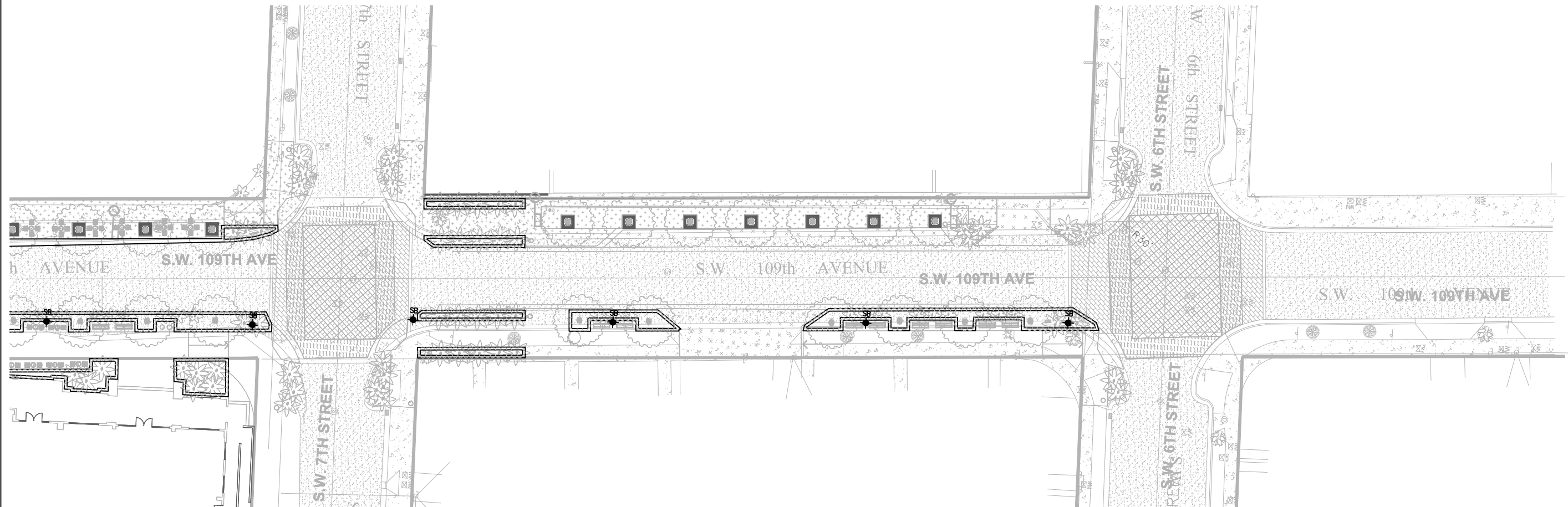


REVISIONS						LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RE CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB		SHEET TITLE: <b>SITE LIGHTING PLAN</b>	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY
UNIVERSITYCITY PROSPERITY PROJECT									SHEET NO. L-04	



FIXTURE SYMBOL LEGEND

- SA UNIVERSITY STANDARD PEDESTRIAN LUMINAIRE
- SB SWEETWATER STANDARD PEDESTRIAN LUMINAIRE - TYPE B (SEE L-08)
- SC MID-POWER LED DIRECT BURIAL ACCENT LIGHT
- SD HIGH-POWER LED DIRECT BURIAL ACCENT LIGHT
- SF LOW-POWER LED DIRECT BURIAL ACCENT LIGHT
- SK LED STEPLIGHT RECESSED INTO STAIR RISER



REVISIONS						LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RE CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB		SHEET TITLE: <b>SITE LIGHTING PLAN</b>		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY	PROJECT ID
UNIVERSITYCITY PROSPERITY PROJECT									L-05		









Lightvault® LTV8FF Flat Frame  
8/6/15 • k\_Ltv8ff\_spec.pdf

Type:  
Job:  
Fixture Catalog number:  
  
Lens Ring Distribution Source Color Temp. Voltage  
Ordering Example: LTV81FF/SP/36L5KU/WSRHL/RCA81

Optional Features:  
  
Lens Options. Ordered separately from fixture. See page 3.  
CAUTION: Options must be installed at factory.  
Opening component module on site will void warranty.

Approvals:  
  
Date:  
Page: 1 of 3

Specifications

Pour Box rough-in housing ships separately and as a quick-ship if requested.

LTV81FF



LTV82FF



LTV83FF

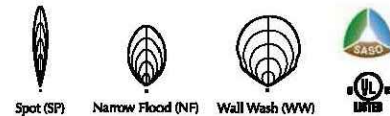


DEBRIS SHIELDS



LIGHT DISTRIBUTIONS:

LTV81FF, LTV82FF, LTV83FF



**HOUSING:** Pour Box rough-in housing for installation below grade. High temperature UV resistant thermal plastic, 3/16" minimum wall, black. Includes a splice box with molded plastic splice cover and silicone gasket. Three 1" NPT in bottom for through wiring on LTV81 and LTV82. Two 1" NPT in bottom for through wiring on LTV83. 107 cu. in. splice area for LTV81. 52 cu. in. splice area for LTV82. 24 cu. in. splice area for LTV83. Housing supplied with protective aluminum debris shield mask with orientation label for proper installation alignment for clean and easy installation in concrete pad or soil. Ships separately and as a quick-ship if requested.

**COMPONENT MODULE:** One-piece impregnated cast bronze, fully sealed component module secured to the face trims from the underside. A high temperature, anti-siphon, IP67 sealed cable extends from the component module to the splice box inside the housing. The fully assembled component module is secured to the housing with (4) 3/4-20 tamper-resistant high grade stainless steel fasteners.

**FACE TRIM:** One-piece cast bronze lens ring fastened to the component module from the underside shall provide a flat surface.

**OPTICAL MODULES:** Spot (SP), Narrow Flood (NF), and Wall Wash (WW) optical modules are adjustable up to 15° utilizing a Bluetooth enabled motor assembly.

**BLUETOOTH:** Integral Bluetooth module used to adjust optics and dim fixture to desired setting when paired with KIM LTV8 Remote App via cellular/tablet device. Fully qualified Bluetooth 1.1, 1.2, 2.0, 2.1. Bluetooth v2.0+EDR compatible with Android devices running Android Gingerbread API level 9 forward. Bluetooth 4.0 LE compatible with iOS devices - iPhone 4S and later, 5th generation iPod touch, the iPad Mini and the 3rd generation and later of the full size iPad with iOS 5 or later. Bluetooth Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the internet at Apple App Store or Google Play.

**LENS:** Clear 3/16" thick tempered glass lens and silicone gasket is retained securely within the component module.

**OPTIONS:** Slip Resistant Lens (SR), Hex Cell Louver (HL), Prismatic Lens (PL), Rebar Cage Anchor (RCA8x). See page 3 for details.

**ELECTRICAL EQUIPMENT:** All electronic components are UL and CSA recognized and mounted directly to the component module for maximum heat dissipation and modularity. Driver is IP67 with -30°C minimum temperature rating.

**DRIVE-OVER DURABILITY:** When installed in concrete, fixture will withstand drive-over by vehicles weighing up to 4,500 lbs.

**CERTIFICATION:** (UL1598, UL8750). SASO Certified for LTV82/83.



The Bluetooth® word mark and logo are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Kim Lighting is under license. Other trademarks and trade names are those of their respective owners. Apple, the Apple logo, iPad, iPhone, and iPod Touch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc. Google Play is a trademark of Google Inc.



Lightvault® LTV8FF Flat Frame  
8/6/15 • k\_Ltv8ff\_spec.pdf

Type:  
Job:  
Fixture Catalog number:  
  
Lens Ring Distribution Source Color Temp. Voltage  
Ordering Example: LTV81FF/SP/36L5KU/WSRHL/RCA81

Optional Features:  
  
Lens Options. Ordered separately from fixture. See page 3.  
CAUTION: Options must be installed at factory.  
Opening component module on site will void warranty.

Approvals:  
  
Date:  
Page: 1 of 3

Specifications

Pour Box rough-in housing ships separately and as a quick-ship if requested.

LTV81FF



LTV82FF



LTV83FF

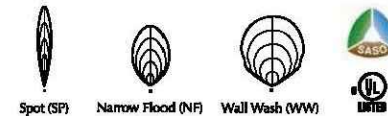


DEBRIS SHIELDS



LIGHT DISTRIBUTIONS:

LTV81FF, LTV82FF, LTV83FF



**HOUSING:** Pour Box rough-in housing for installation below grade. High temperature UV resistant thermal plastic, 3/16" minimum wall, black. Includes a splice box with molded plastic splice cover and silicone gasket. Three 1" NPT in bottom for through wiring on LTV81 and LTV82. Two 1" NPT in bottom for through wiring on LTV83. 107 cu. in. splice area for LTV81. 52 cu. in. splice area for LTV82. 24 cu. in. splice area for LTV83. Housing supplied with protective aluminum debris shield mask with orientation label for proper installation alignment for clean and easy installation in concrete pad or soil. Ships separately and as a quick-ship if requested.

**COMPONENT MODULE:** One-piece impregnated cast bronze, fully sealed component module secured to the face trims from the underside. A high temperature, anti-siphon, IP67 sealed cable extends from the component module to the splice box inside the housing. The fully assembled component module is secured to the housing with (4) 3/4-20 tamper-resistant high grade stainless steel fasteners.

**FACE TRIM:** One-piece cast bronze lens ring fastened to the component module from the underside shall provide a flat surface.

**OPTICAL MODULES:** Spot (SP), Narrow Flood (NF), and Wall Wash (WW) optical modules are adjustable up to 15° utilizing a Bluetooth enabled motor assembly.

**BLUETOOTH:** Integral Bluetooth module used to adjust optics and dim fixture to desired setting when paired with KIM LTV8 Remote App via cellular/tablet device. Fully qualified Bluetooth 1.1, 1.2, 2.0, 2.1. Bluetooth v2.0+EDR compatible with Android devices running Android Gingerbread API level 9 forward. Bluetooth 4.0 LE compatible with iOS devices - iPhone 4S and later, 5th generation iPod touch, the iPad Mini and the 3rd generation and later of the full size iPad with iOS 5 or later. Bluetooth Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the internet at Apple App Store or Google Play.

**LENS:** Clear 3/16" thick tempered glass lens and silicone gasket is retained securely within the component module.

**OPTIONS:** Slip Resistant Lens (SR), Hex Cell Louver (HL), Prismatic Lens (PL), Rebar Cage Anchor (RCA8x). See page 3 for details.

**ELECTRICAL EQUIPMENT:** All electronic components are UL and CSA recognized and mounted directly to the component module for maximum heat dissipation and modularity. Driver is IP67 with -30°C minimum temperature rating.

**DRIVE-OVER DURABILITY:** When installed in concrete, fixture will withstand drive-over by vehicles weighing up to 4,500 lbs.

**CERTIFICATION:** (UL1598, UL8750). SASO Certified for LTV82/83.



The Bluetooth® word mark and logo are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Kim Lighting is under license. Other trademarks and trade names are those of their respective owners. Apple, the Apple logo, iPad, iPhone, and iPod Touch are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc. Google Play is a trademark of Google Inc.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:  
RANDY BURKETT LIGHTING DESIGN  
609 E. Lockwood Ave., Suite 201  
St. Louis, Missouri 63119

DRAWN BY: RE		ROAD NO.	COUNTY	PROJECT ID
CHECKED BY: RK				
DESIGNED BY: RK				
CHECKED BY: RB		MIAMI-DADE	BT-904	

SHEET TITLE: SITE LIGHTING FIXTURES		SHEET NO. L-07
PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT		



Specification Sheet / Ingrade / LD1



**L01**

**Application:** Exterior/interior directional in-grade light for lighting walls, columns, architectural features or landscape features. Applicable for mounting into floors, walls, ceilings or other surfaces where a non-obtrusive luminaire is required.

**Electrical:** 1W, 350mA or 2.5W, 700mA LED.

**LED Input Voltage:** 4V DC or 12V AC

**Power Consumption:** 1.5W / 3W

**Power Supply:** DC - Powered by remote 350mA (1W) or 700mA (2.5W) DC driver. Recommended LED10W350D (1W) and LED17W700D (2.5W). Dimmable drivers available (not included). AC - Recommended TLW120MT050-01 / TLW277MT050 magnetic transformer (not included). Consult factory for dimming option.

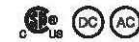
**Weight:** 1.8lbs net. (0.816kg) (base extra).

**Material:** Solid anodized aluminum or stainless steel (303/316) with 1/4" (6mm) thick tempered glass lens, suitable for walk-over and drive-over applications. RoHS compliant.

**Mounting:** Comes with splice box, aluminum flange and level gauge. Can be buried in earth/gravel or cast into concrete/paring stone with or without mounting base.

**IP rating:** G6

**Approval:** Wet and dry locations. Approved to US and Canadian standards by CSA.



**Emergency Driver options (remote):**

MP Lighting Emergency Backup Unit.  
Input: 100-277V, 50/60Hz / Output: 11-36V, 16W

Bodine Emergency Micro Inverter  
Input: 120/277V, 50/60Hz / Output: 120/277V, 60Hz, 20W

**Type:**

**Project:**

**Modified:**

**Quantity:**

**Notes:**

Code	Wattage	Color	Beam	Lens	Option	Angle Bracket*	Input Voltage	Flange Height	Base Height	Finish
<b>L01</b>	-	-	-	-	-	-	-	-	-	-
1 = 1W	W27S = 2700K, shi CRI	S = spot (12°)	C = clear	LM = louvec, matte anodized	0 = no angle	A = 12V AC	S = standard flange 7/8" (20mm)	0 = no base	MA = matte clear anodized	
2 = 2.5W	W30S = 3000K, shi CRI	N = narrow flood (30°)	F = frosted	LB = louvec, black anodized	30 = 30° angle	(available for W20S, W27S, and W30S only)	P = paving stone flange, 3-3/8" (86mm)	2 = 2" (51mm)	BA = black anodized	
	W35S = 3500K, shi CRI	W = wide flood (120°)		HM = hex louvec, matte anodized	X = custom (30° max.)	D = DC		6 = 6" (152mm)	BZ = bronze	
	W41S = 4100K, shi CRI			HB = hex louvec, black anodized					SS = stainless steel 316	
	W20H = 2000K, high CRI								ST = stainless steel 316	
	W30H = 3000K, high CRI									

All technical information in this document is subject to change. Copyright © MP Lighting. www.mplighting.com 41.877.708.1184 f 604.708.1185 04-2015

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:  
**RANDY BURKETT LIGHTING DESIGN**  
 609 E. Lockwood Ave., Suite 201  
 St. Louis, Missouri 63119

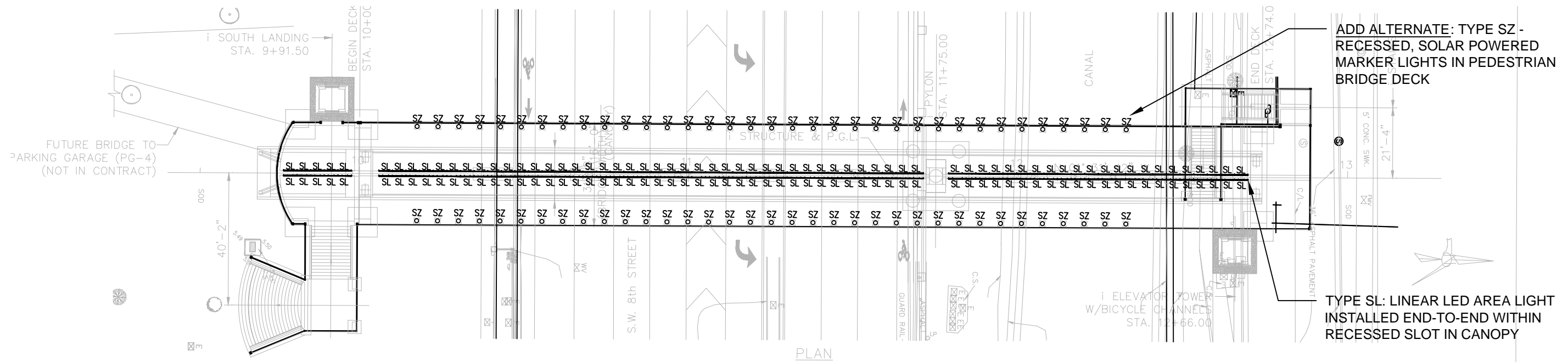
DRAWN BY: <b>RF</b>		ROAD NO.		COUNTY	PROJECT ID
CHECKED BY: <b>RK</b>				MIAMI-DADE	BT-904
DESIGNED BY: <b>RK</b>					
CHECKED BY: <b>RB</b>					

SHEET TITLE: <b>SITE LIGHTING FIXTURES</b>		SHEET NO.
PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT		L-08

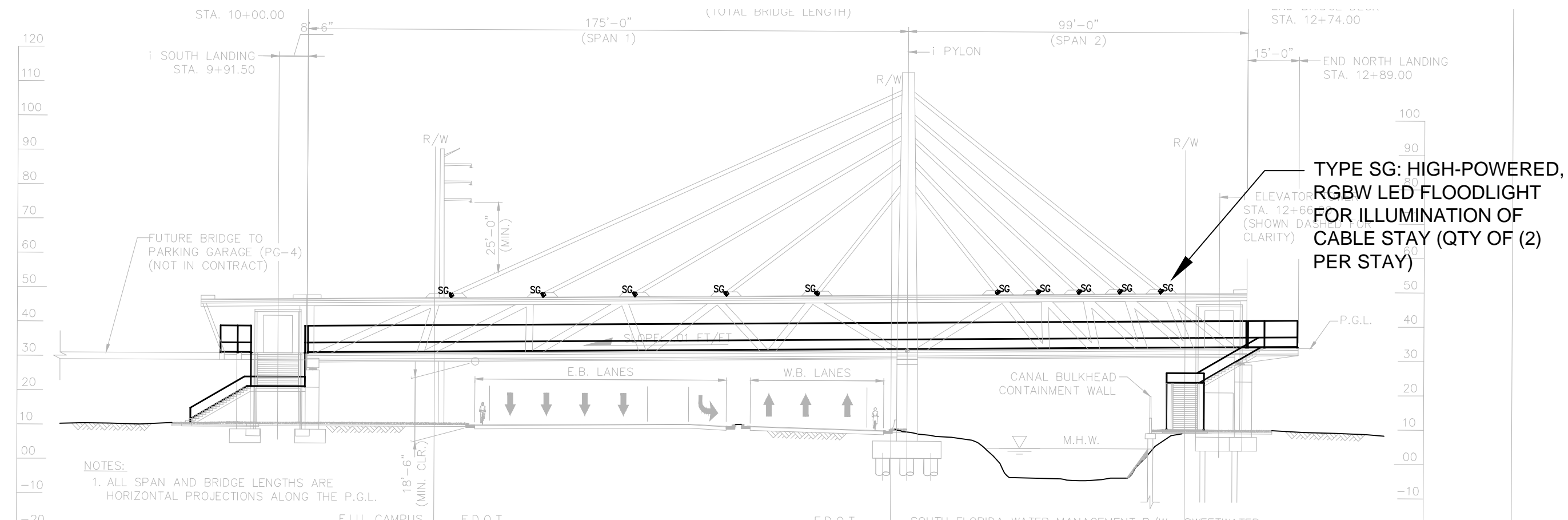








**1** PEDESTRIAN PATHWAY ILLUMINATION  
SCALE: 1/32" = 1'-0"

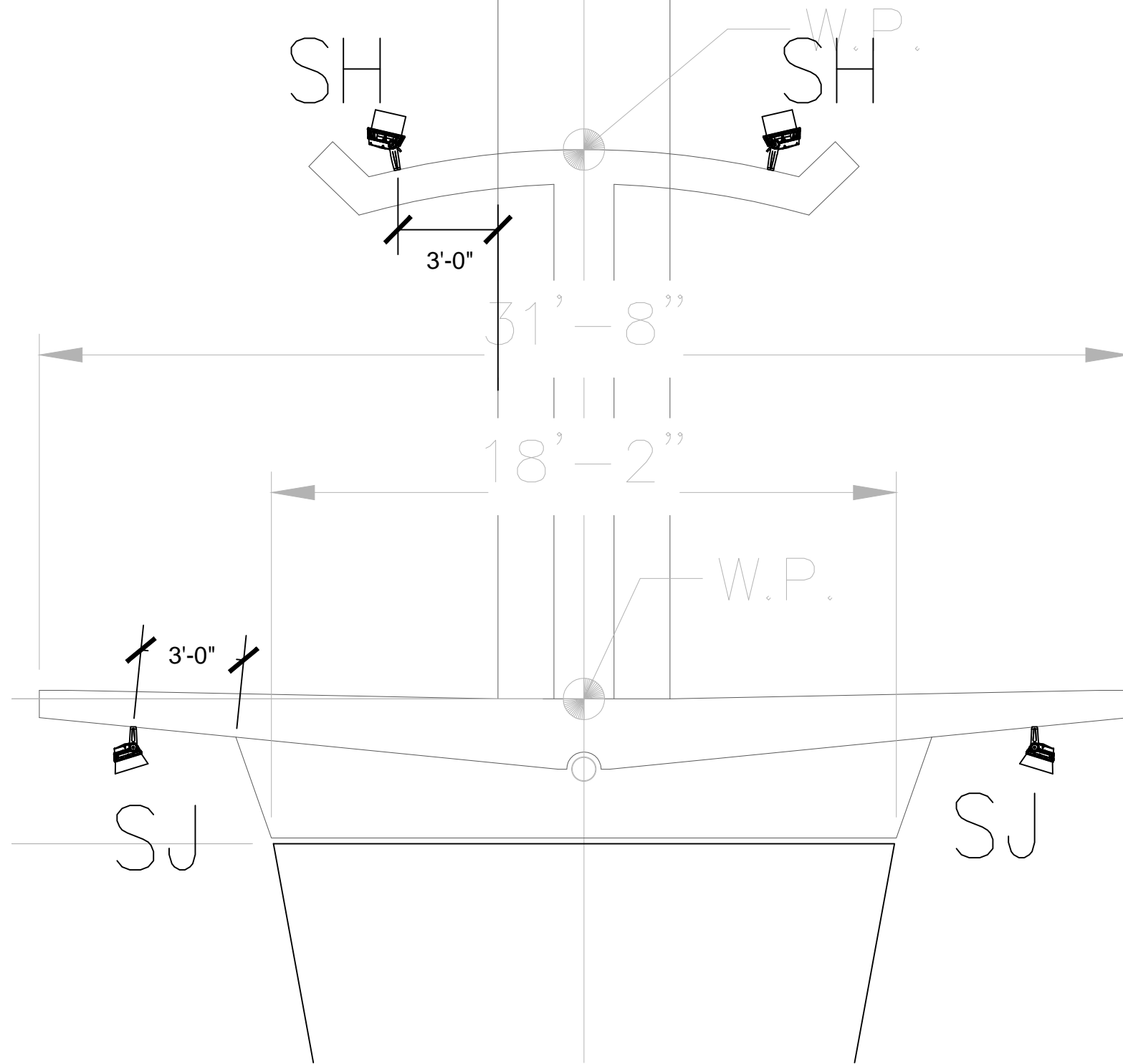


**2** CABLE STAY ILLUMINATION  
SCALE: 1/32" = 1'-0"

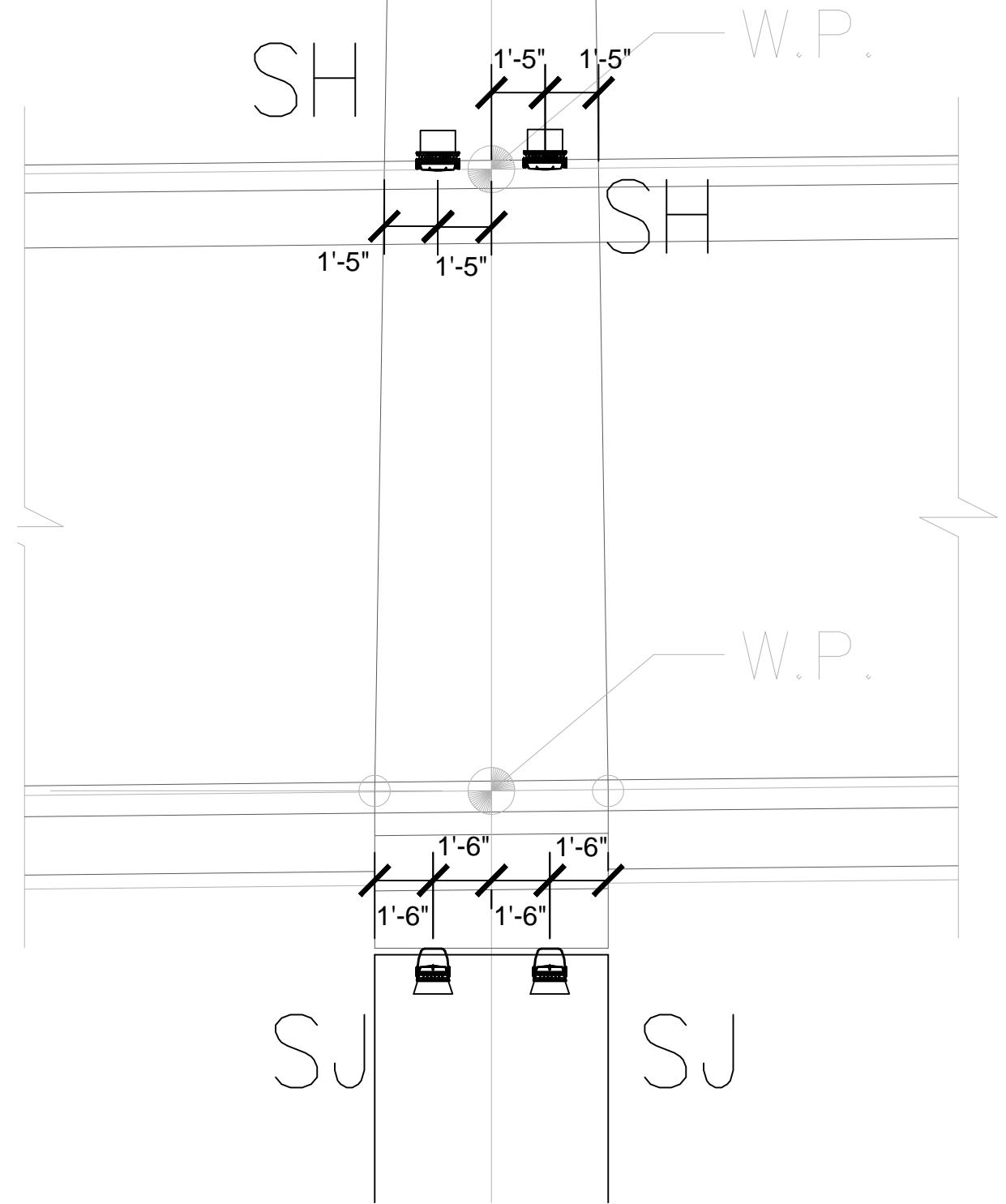
NOTES:  
1. ALL SPAN AND BRIDGE LENGTHS ARE HORIZONTAL PROJECTIONS ALONG THE P.G.L.

REVISIONS					LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RF CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB		SHEET TITLE: PEDESTRIAN BRIDGE LIGHTING PLANS		
DATE	BY	DESCRIPTION	DATE	BY				DESCRIPTION	ROAD NO.	COUNTY
							MIAMI-DADE	BT-904	PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO. L-11






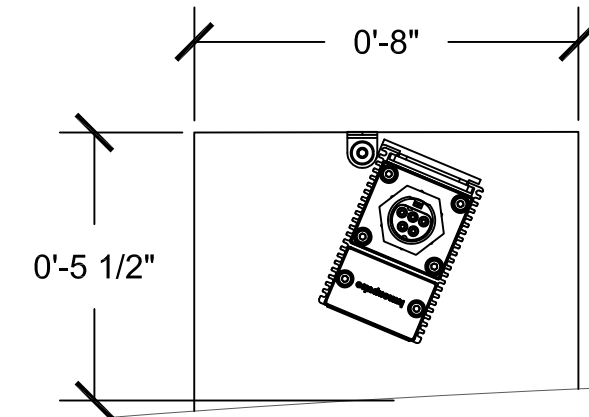
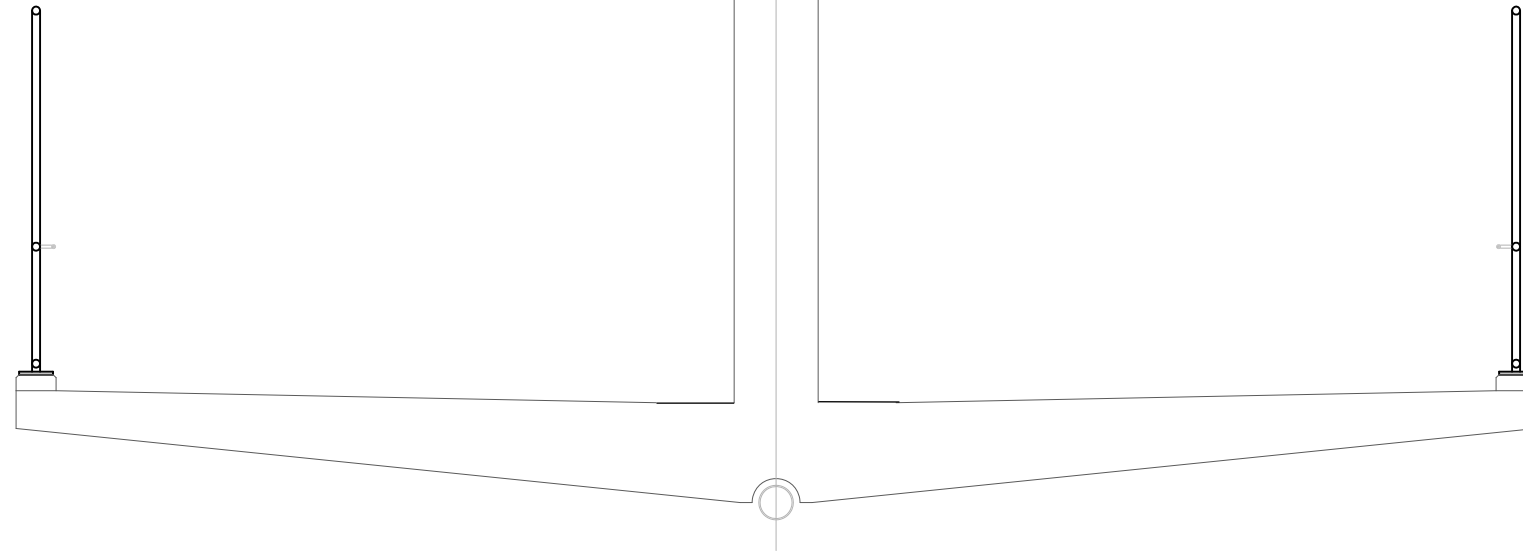
1 PYLON LIGHTING DETAILS - SECTION  
SCALE: 1/4" = 1'-0"



2 PYLON LIGHTING DETAILS - ELEVATION  
SCALE: 1/4" = 1'-0"



REVISIONS						LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RE CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB		SHEET TITLE: BRIDGE PYLON LIGHTING DETAILS		
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY	PROJECT ID
							MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT	L-12	

CONTINUOUS LIGHT SLOT  
HOUSING 48" LINEAR LED AREA  
LIGHT INSTALLED END-TO-END  
PER PLANS; MINIMUM CLEAR  
REQUIRED IS 8" W x 5.5" TALL



1 PEDESTRIAN PATHWAY ILLUMINATION  
SCALE: 1/4" = 1'-0"

2 PATHWAY FIXTURE COVE DETAIL  
SCALE: 3" = 1'-0"

REVISIONS						LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RF CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB	 	SHEET TITLE:	
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				ROAD NO.	COUNTY
PROJECT NAME:									UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO.
										L-13





Specification Sheet



Client \_\_\_\_\_ Project name \_\_\_\_\_

Order# \_\_\_\_\_ Type \_\_\_\_\_ Qty \_\_\_\_\_

FEATURES AND BENEFITS

Physical :

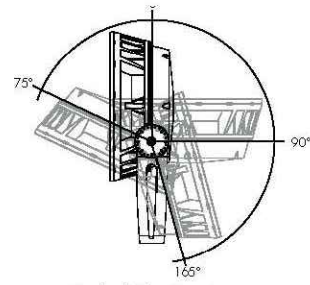
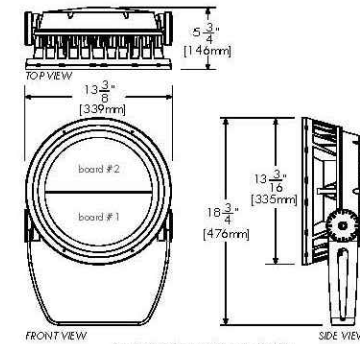
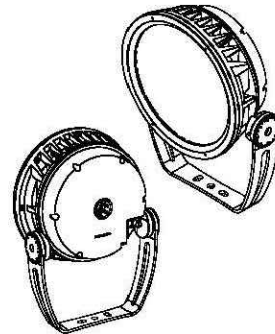
- Low copper content high pressure die-cast aluminum housing
- Heavy aluminum formed yoke (standard yoke included)
- Stainless steel hardware
- Silicone sealing devices
- Clear tempered glass
- Dual chamber design for heat management and ease of maintenance
- Electro-statically applied polyester powder coat finish
- 10.90 kg / 24 lbs
- EPA: Front = 1.60 sq. ft. / 0.15 sq. m. Side = 0.97 sq. ft. / 0.090 sq. m.
- IP66
- IK09 rated
- Meets 3G ANSI C136.31 Vibration standard for bridge applications
- Corrosion-resistant coating for hostile environments\*

Performance :

- Minimum 1fc (10.7 lux) @ 367 feet (111m) distance (RGB full white, 6° optic)
- 3,716 delivered lumens and 134,713 candelas at nadir (RGB full white, 6° optic)
- 3,328 delivered lumens and 190,032 candelas at nadir (RGBW full white, 6° optic)
- Color mixing options: RGB (3 channels) or RGBW (4 channels)
- 6°, 10°, 20°, 40°, 60° optics available
- Lumen maintenance 120,000 hrs [L70 @ 25°C]
- Resolution per board or per fixture (configured with lumenID V3 software & RDM)
- Operating temperatures: -25° C to 50° C [-13F to 122F]

Electrical :

- Line voltage luminaire for 100 to 277V
- Power and data in 1 cable, 3ft/ 1 m cord (#16-5)
- 72 LEDs for RGB color mixing option (36 LEDs per board)
- 48 LEDs for RGBW color mixing option (24 LEDs per board)
- 100 watts
- DMX/RDM enabled



\* Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!

1/8 © Copyright lumenpulse 2015 1.877.937.3003 P.514.937.3003 F.514.937.6289 info@lumenpulse.com www.lumenpulse.com  
 01/SE/2015 N.Kassabian - Rev.8 1751 Richardson, Suite 1505 Montreal (Quebec) Canada H3K 1G6  
 5-year limited warranty. Consult www.lumenpulse.com for our complete Standard Terms and Conditions of Sales.



lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.

Specification Sheet



Client \_\_\_\_\_ Project name \_\_\_\_\_

Order# \_\_\_\_\_ Type \_\_\_\_\_ Qty \_\_\_\_\_

FEATURES AND BENEFITS

Physical :

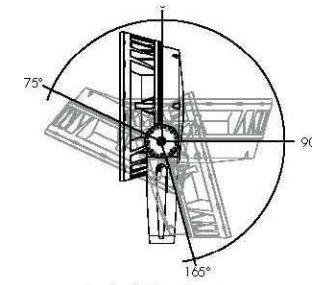
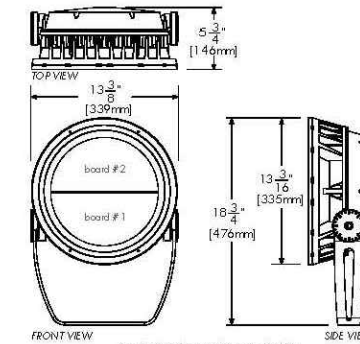
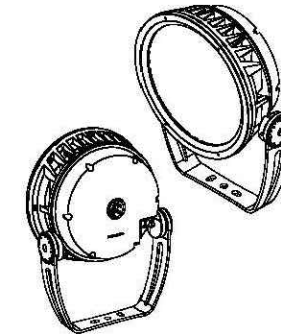
- Low copper content high pressure die-cast aluminum housing
- Heavy aluminum formed yoke (standard yoke included)
- Stainless steel hardware
- Silicone sealing devices
- Clear tempered glass
- Dual chamber design for heat management and ease of maintenance
- Electro-statically applied polyester powder coat finish
- 10.90 kg / 24 lbs
- EPA: Front = 1.60 sq. ft. / 0.15 sq. m. Side = 0.97 sq. ft. / 0.090 sq. m.
- IP66
- IK09 rated
- Meets 3G ANSI C136.31 Vibration standard for bridge applications
- Corrosion-resistant coating for hostile environments\*

Performance :

- Minimum 1fc (10.7 lux) @ 367 feet (111m) distance (RGB full white, 6° optic)
- 3,716 delivered lumens and 134,713 candelas at nadir (RGB full white, 6° optic)
- 3,328 delivered lumens and 190,032 candelas at nadir (RGBW full white, 6° optic)
- Color mixing options: RGB (3 channels) or RGBW (4 channels)
- 6°, 10°, 20°, 40°, 60° optics available
- Lumen maintenance 120,000 hrs [L70 @ 25°C]
- Resolution per board or per fixture (configured with lumenID V3 software & RDM)
- Operating temperatures: -25° C to 50° C [-13F to 122F]

Electrical :

- Line voltage luminaire for 100 to 277V
- Power and data in 1 cable, 3ft/ 1 m cord (#16-5)
- 72 LEDs for RGB color mixing option (36 LEDs per board)
- 48 LEDs for RGBW color mixing option (24 LEDs per board)
- 100 watts
- DMX/RDM enabled



\* Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!

1/8 © Copyright lumenpulse 2015 1.877.937.3003 P.514.937.3003 F.514.937.6289 info@lumenpulse.com www.lumenpulse.com  
 01/SE/2015 N.Kassabian - Rev.8 1751 Richardson, Suite 1505 Montreal (Quebec) Canada H3K 1G6  
 5-year limited warranty. Consult www.lumenpulse.com for our complete Standard Terms and Conditions of Sales.



lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.

REVISIONS					LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RF CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB		ROAD NO. COUNTY PROJECT ID	PROJECT NAME:	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY						
									BRIDGE LIGHTING FIXTURES	
								MIAMI-DADE BT-904	UNIVERSITYCITY PROSPERITY PROJECT	L-15



Specification Sheet



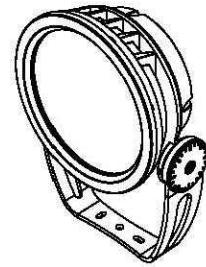
Client \_\_\_\_\_ Project name \_\_\_\_\_

Order# \_\_\_\_\_ Type \_\_\_\_\_ Qty \_\_\_\_\_

FEATURES AND BENEFITS

Physical :

- Low copper content high pressure die-cast aluminum housing
- Heavy aluminum formed yoke (standard yoke included)
- Stainless steel hardware
- Silicone sealing devices
- Clear tempered glass
- Dual chamber design for heat management and ease of maintenance
- Electro-statically applied polyester powder coat finish
- 5.44 kg / 12 lbs
- EPA: Front = 0.94 sq. ft. / 0.087 sq. m. Side = 0.56 sq. ft. / 0.052 sq. m.
- IP66
- IK 10 rated
- Meets 3G ANSI C136.31 Vibration standard for bridge applications
- Corrosion-resistant coating for hostile environments\*

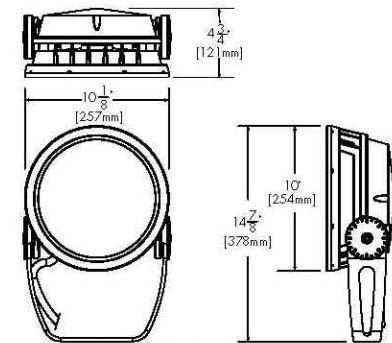


Performance :

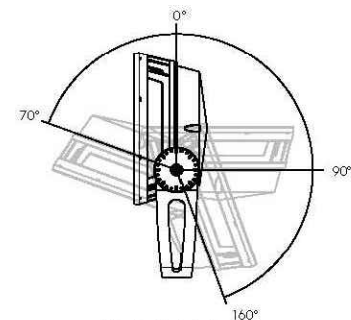
- Minimum 1fc (10.7 lux) @ 270 feet (82m) distance (RGB full white, 6° optic)
- 1,795 delivered lumens and 72,904 candelas at nadir (RGB full white, 6° optic)
- 2,233 delivered lumens and 93,100 candelas at nadir (RGBW full white, 6° optic)
- Color mixing options: RGB or RGBW
- 6°, 10°, 20°, 40° or 60° optics available
- Lumen maintenance 120,000 hrs [L70 @ 25°C]
- Lumen measurements comply with LM-79-08 standard
- Operating temperatures: -25° C to 50° C [-13F to 122F]

Electrical :

- Line voltage luminaire for 100 to 277V
- Power and data in 1 cable, 3ft/1 m cord (#16-5)
- 50 watts
- DMX/RDM enabled



Standard Yoke (as shown, included)



Standard Yoke Mounting Adjustable pivot limits

\* Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!

1/7

© Copyright lumenpulse 2015  
1.877.937.3003  
P.514.937.3003  
F.514.937.6289  
info@lumenpulse.com  
www.lumenpulse.com

5-year limited warranty.

Consult www.lumenpulse.com for our complete Standard Terms and Conditions of Sales.



lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.

Specification Sheet



Client \_\_\_\_\_ Project name \_\_\_\_\_

Order# \_\_\_\_\_ Type \_\_\_\_\_ Qty \_\_\_\_\_

FEATURES AND BENEFITS

Physical :

- Low copper content extruded aluminum housing
- Available in 1', 2', 3' or 4' sections
- Electro-statically applied polyester powder coat finish
- Machined aluminum end caps and silicone gaskets
- Stainless steel hardware
- Clear tempered glass
- Asymmetric wallwash, 10° x 10°, 10° x 60°, 30° x 60° or 60° x 60° optics
- IP66
- IK07 rated (asymmetric wallwash lens is IK06 rated)
- Corrosion-resistant coating for hostile environments\*\*
- Meets 3G ANSI C136.31 Vibration standard for bridge applications



Performance :

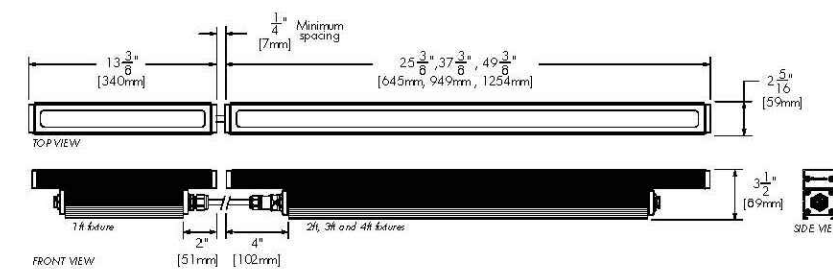
- CRI values: 85+ (2700K), 80+ (3000K), 78+ (4000K)
- Lumen maintenance 120,000 hrs [L70 @ 25°C]
- Lumen measurements comply with LM-79-08 standard
- Resolution per foot or per fixture (configured with LumenID V3 software & RDM)
- Operating temperatures: -25° C to 50° C [-13F to 122F]

	4ft HO 4000K	Delivered Output [lm]	Intensity [peak cd]
10'x10°	-	-	-
10'x60°	3,692	19,654	
30'x60°*	3,584	4,750	
60'x60°*	3,676	3,137	
WW	3,592	5,159	

\*Estimated. Consult lumenpulse website for the latest data.

Electrical :

- Line voltage luminaire for 100 to 277V
- Power and data in 1 cable (#16-5)
- Up to 88 feet with a single 120V power feed, HO version
- 5W/ft version meets ASHRAE standards for linear lighting on building facades
- 8.5W/ft Regular Output version
- 15.25W/ft High Output version
- Dimming options: 0-10 volt, DMX/RDM enabled, DALI, Lumentalk or Lutron® EcoSystem® enabled



\*Asymmetric wallwash lens is IK06 rated  
\*\* Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!

1/10

© Copyright lumenpulse 2015  
1.877.937.3003  
P.514.937.3003  
F.514.937.6289  
info@lumenpulse.com  
www.lumenpulse.com

5-year limited warranty.

Consult www.lumenpulse.com for our complete Standard Terms and Conditions of Sales.



lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:  
RANDY BURKETT LIGHTING DESIGN  
609 E. Lockwood Ave., Suite 201  
St. Louis, Missouri 63119

DRAWN BY: RF		ROAD NO.	COUNTY	PROJECT ID
CHECKED BY: RK				
DESIGNED BY: RK		MIAMI-DADE		BT-904
CHECKED BY: RB				

SHEET TITLE: BRIDGE LIGHTING FIXTURES		PROJECT NAME: UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO. L-16
PROJECT ID: BT-904			

Specification Sheet



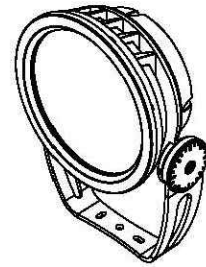
Client \_\_\_\_\_ Project name \_\_\_\_\_

Order# \_\_\_\_\_ Type \_\_\_\_\_ Qty \_\_\_\_\_

FEATURES AND BENEFITS

Physical :

- Low copper content high pressure die-cast aluminum housing
- Heavy aluminum formed yoke (standard yoke included)
- Stainless steel hardware
- Silicone sealing devices
- Clear tempered glass
- Dual chamber design for heat management and ease of maintenance
- Electro-statically applied polyester powder coat finish
- 5.44 kg / 12 lbs
- EPA: Front = 0.94 sq. ft. / 0.087 sq. m. Side = 0.56 sq. ft. / 0.052 sq. m.
- IP66
- IK 10 rated
- Meets 3G ANSI C136.31 Vibration standard for bridge applications
- Corrosion-resistant coating for hostile environments\*

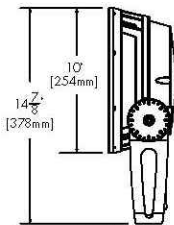
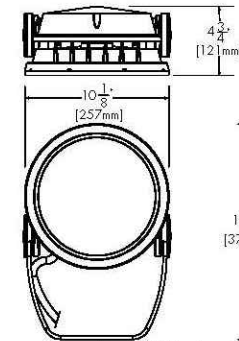


Performance :

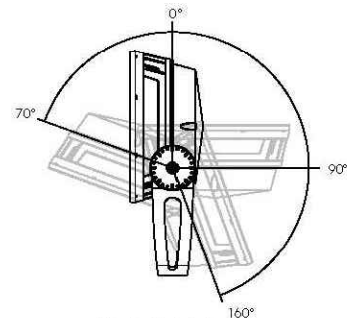
- Minimum 1fc (10.7 lux) @ 270 feet (82m) distance (RGB full white, 6° optic)
- 1,795 delivered lumens and 72,904 candelas at nadir (RGB full white, 6° optic)
- 2,233 delivered lumens and 93,100 candelas at nadir (RGBW full white, 6° optic)
- Color mixing options: RGB or RGBW
- 6°, 10°, 20°, 40° or 60° optics available
- Lumen maintenance 120,000 hrs [L70 @ 25°C]
- Lumen measurements comply with LM-79-08 standard
- Operating temperatures: -25° C to 50° C [-13F to 122F]

Electrical :

- Line voltage luminaire for 100 to 277V
- Power and data in 1 cable, 3ft/1 m cord (#16-5)
- 50 watts
- DMX/RDM enabled



Standard Yoke (as shown, included)



Standard Yoke Mounting Adjustable pivot limits

\* Use only when exposed to salt spray and harsh chemicals. This option is not required for normal outdoor exposure!

1/7

© Copyright lumenpulse 2015  
1751 Richardson, Suite 1505  
Montreal (Quebec) Canada  
H3K 1G6

1.877.937.3003  
P.514.937.3003  
F.514.937.6289  
info@lumenpulse.com  
www.lumenpulse.com

5-year limited warranty.  
Consult www.lumenpulse.com  
for our complete Standard Terms  
and Conditions of Sales.



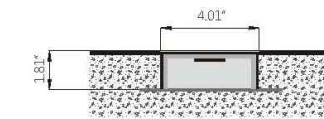
lumenpulse reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.

Specification

Page 1 of 1  
20140618



METEOR Solar LED Paver lights incorporate state-of-the-art technology, combining the best solar panels, power storage and optical design to create products that will function for years to come.



SH-130  
Solar LED Paver Light

Water Proof / No Wiring

Type : \_\_\_\_\_  
Project : \_\_\_\_\_  
Quantity: \_\_\_\_\_  
Note : \_\_\_\_\_

General

Weight: 0.968 lbs  
Rim Finish: Brushed/Polished stainless steel, Optional: SUS316 stainless steel / Brass  
Lens: GE super light permeable PC  
Housing: SUS304 stainless steel, cast aluminum  
Power Storage: Ultracapacitor

Operational

Operation Time: Minimum 12 hours (fully charged) 4-8 hours (overcast)  
Full Charge Time: 6 hours (direct sunlight)  
Switch: Light sensitive auto on/off

Environmental

Compressive Strength: 9902 lbs/4456 kgs (minimum)  
Operating Temperature: -4° F -140° F  
Storage Temperature: -13° F -176° F

Warranty

3 year limited warranty. See [www.meteor-lighting.com](http://www.meteor-lighting.com) for details.



Ordering Logic:

Ex.SH130C-W-B-H

Model	LED Color*	Rim Finish	Housing
SH130C (Product)	A (Amber)	B (Brushed Stainless Steel)	H (Housing and Anchor Plate Included)
SH130B (Battery sample)	B (Blue)	P (Polished Stainless Steel)	- (Without Housing and Anchor Plate)
	G (Green)	B316 (SUS316 Stainless Steel)	
	R (Red)	BR (Brass)	
	W (White)		
	WW (Warm white)		

*Color	LUX (Average)
White	30
Amber	25
Red	70
Blue	25
Green	80
Warm White	28



METEOR Solar LED reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.  
ILOS Corporation 19745 Colima Rd #1-807, Rowland Heights, CA 91748 P: 213.255.2060 F: 213.596.3704 [www.meteor-lighting.com](http://www.meteor-lighting.com)

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:

RANDY BURKETT LIGHTING DESIGN  
609 E. Lockwood Ave., Suite 201  
St. Louis, Missouri 63119

DRAWN BY: RE  
CHECKED BY: RK  
DESIGNED BY: RK  
CHECKED BY: RB

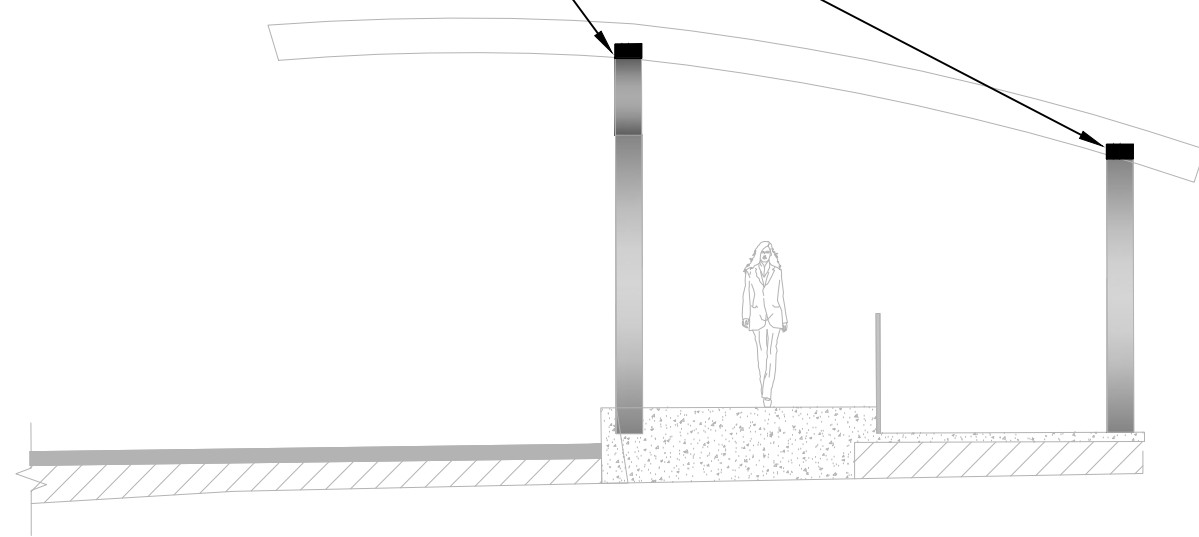
ROAD NO.	COUNTY	PROJECT ID	PROJECT NAME:		
	MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT		

SHEET TITLE:		BRIDGE LIGHTING FIXTURES	
PROJECT NAME:		UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:		L-17	



TYPE SM - CONTINUOUS  
CEILING RECESSED LED LIGHT  
SLOTS

40'-0" NOMINAL RUNS  
CENTERED IN PLAN VIEW  
BETWEEN COLUMNS



RANDY  
BURKETT  
LIGHTING  
DESIGN

TYPE SM

accoLED 5

project

type

quantity

interior exterior

Series: ACL5

Dimensions:

nominal 4' 4  
nominal 8' 8  
nominal 12' 12  
nominal 16' row R16  
nominal 20' row R20  
nominal 24' row R24

Mounting:

flush gyp/hard lid - no finish G  
1" recessed gyp - optional finish RG  
trim flange - choose finish XP  
1-bar 8'16" - no finish T  
1-bar 15'16" - no finish X  
1-bar 9'16" slot - no finish N  
4" on center standard 1-bar - no finish T4  
4" on center slot 1-bar - no finish N4

LED Output:

LED standard output LS  
LED high output LH  
LED Temp:  
3000k 30  
3500k 35  
4000k 40

Optics:

High Efficiency WISPM™ lens (recommended) patent pending HE  
WISPM™ lens S  
HTLO™ lens H  
HTLO™ vertical HV  
HTLO™ vertical + horizontal HVT

Voltage:

universal 120V - 277V U

Finish:

aluminum™ T  
satin white W  
satin black B  
other - specify RAL# O  
no finish (1-bar or gyp) -

Options:

dimming - specify manufacturer, model/series and voltage D  
emergency - IOTA/PL-SL-CP12 only E  
external fusing F  
multi-circuit 1 M  
newyork city code N  
chicago plenum code C  
occupancy sensor 2 O  
photocell/daylight sensor 3 P  
nataatorium application K  
wet label Q

**Mounting:**

Flush Gypsum/Hard Lid Ceiling or Wall: "Flangeless" appearance for gyp or other hard ceiling/wall. Flange is not visible and is not factory-painted. Raw aluminum flange must be attached to blocking (by others), mudded over and painted by ceiling contractor for flangeless appearance.

1" Recessed Gypsum/Hard Lid Ceiling or Wall: Same as above except recessed flange raises lens 1" into ceiling resulting in a 4.5" height. Interior 1" recessed portion is exposed raw aluminum and visible on both sides unless finish is chosen. Contractor should apply ceiling paint if finish is not chosen.

Trim Flange: 1/2" visible powdercoated flange. Use for any gyp or hard ceiling/wall that requires a minimal flange covering the ceiling cut-out edge. Choose finish color for trim flange.

T-Bar/Gnd Ceiling: 9/16" or 15/16" standard T-Bar or 9/16" slot ceiling. Raw aluminum flange sits on T-Bar, is not visible and is not painted.

4" Armstrong Techzone™ / USC Logic™ or other 4" Utility Systems: Suitable for use in 4" on-center standard or slot T-Bar systems. Raw aluminum flange sits on T-Bar, is not visible and is not painted. N4 is recessed, T4 is flush.

**Lengths:**

All length dimensions are nominal, used for general length identification purposes. Actual lengths may vary by several inches. Lengths to 12' are individual fixtures and do not connect. Lengths beginning with "R" designate standard, nominal rows comprised of 4' and/or 8' sections.

Specify all modifications with the "integrations" specification sheet; nominal lengths other than the standards available here, rows longer than 24', exact lengths, patterns, shadowmolding or other mount types.

**LED:**

5yr warranty >60,000hr LED life. Tested to LM-79 and LM-80. See wattage/lumen table for specifications per foot. All specifications are subject to change.

**Construction:**

80% recycled aluminum extruded housing. Steel endcap for T-Bar flanges, milled aluminum endcap for gyp or trim flange.

**Finish:**

Electrostatically applied powder coat finish. Finish applies to MR16 module plates and XP trim flange.

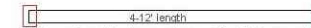
**Listing:**

UL/CUL Damp Location.

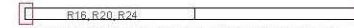
**Wet Label:**

Specify in Options.

Wet label standards ACL5:



Fixture is gasketed on endcaps with drilled weep holes.



Fixture is gasketed on endcaps, with drilled weep holes. Gasketing at each section is not required for direct applications.

**Family Luminaires:**

ACL1 suspended, ACL2 suspended/ceiling/wall, ACL3 suspended/ceiling/wall, ACL4 wall

**Companion Luminaires:**

D6 recessed, D3 wall/suspended/ceiling, D7 recessed wall wash

**Legend:**

1. Contact Factory for available Multi-circuit options.
2. Standard on/off occupancy sensor: Wattstopper FS-205 with minimal 1" diameter.
3. Standard occupancy sensor with photocell: Wattstopper FS-205 wired for daylight harvesting. Requires 0-10V dimming ballast.
4. The N4 mounting requires the housing to sit on top of the slot T-Bar creating a slight recess and will not sit flush to ceiling tile.

elements

www.rlights.com  
Version 1 Nov 2014

3

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LIGHTING DESIGNER:

RANDY  
BURKETT  
LIGHTING  
DESIGN  
609 E. Lockwood Ave., Suite 201  
St. Louis, Missouri 63119

DRAWN BY:

RF

CHECKED BY:

RK

DESIGNED BY:

RK

CHECKED BY:

RB



ROAD NO.	COUNTY	PROJECT ID
	MIAMI-DADE	BT-904

SHEET TITLE:

BUS TRANSIT SHELTER LIGHTING

PROJECT NAME:

UNIVERSITYCITY PROSPERITY PROJECT

SHEET NO.



L-18

Issue Date: 09/25/2015

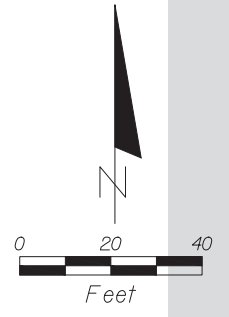
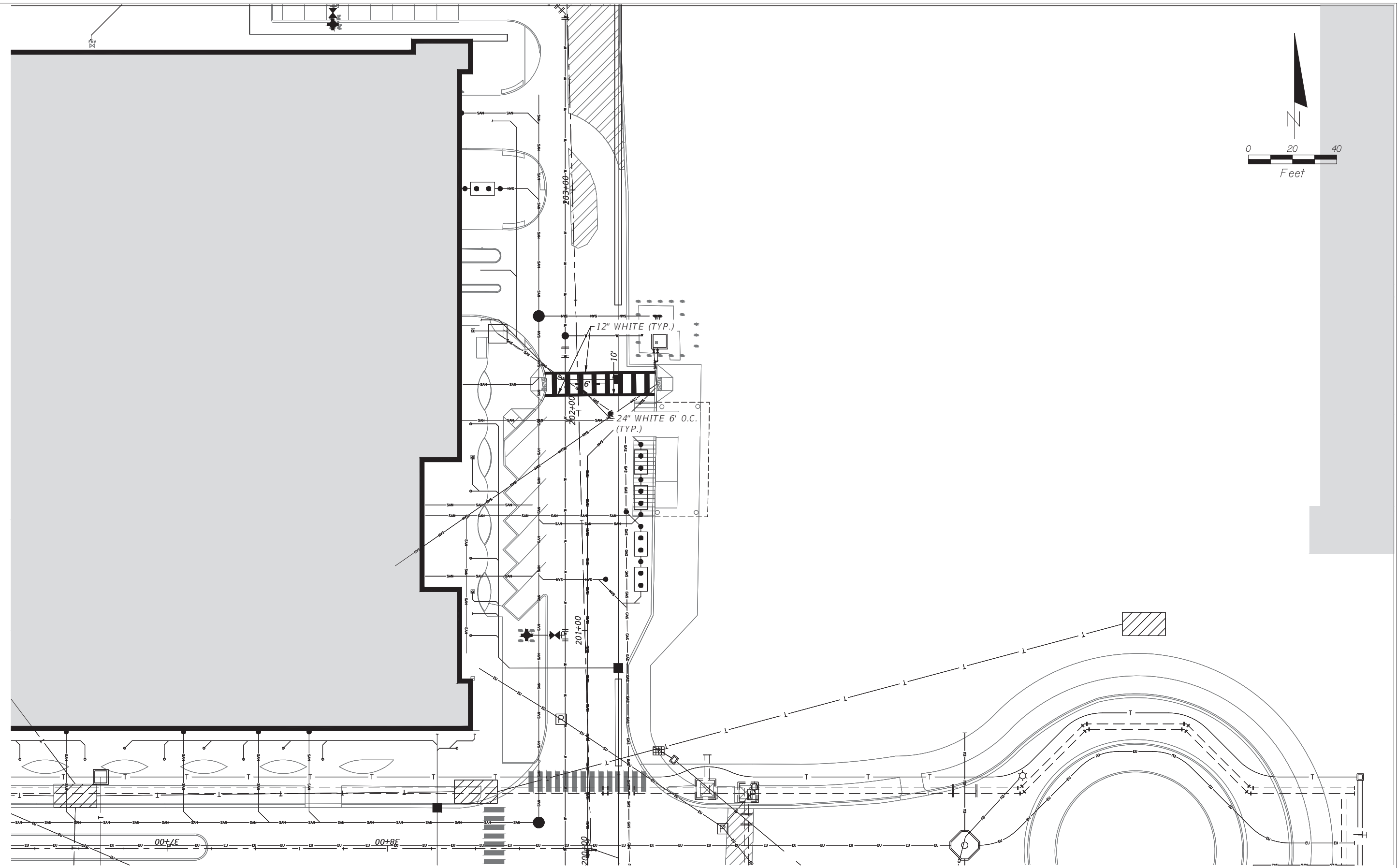
Revisions:

**FLORIDA INTERNATIONAL UNIVERSITY - UNIVERSITY CITY PROSPERITY PROJECT  
LIGHTING FIXTURE SCHEDULE - FOR PRICING PURPOSES ONLY**

TYPE	LUMINAIRE SPECIFICATION	LUMINAIRE DESCRIPTION	LAMP CODE	LAMPS / UNIT	MAX WATT / UNIT	VOLT	NOTES	REV.	MANUFACTURER CONTACTS
SA	Louis Poulsen ALB-MAX-PT/112WLED-3000K/120-277/GREY/T-DRA-5-3 DRA 5"-3"-12	University standard, LED pedestrian luminaire. 12'-0" pole height plus luminaire.	Integral LED	N/A	120	120-277			Tony Randazzo/Lighting Associates 314-531-3500 trandazzo@laiweb.net
SB	Spring City Washington Post Top -LED-ASY-BLU atop Valmont Pole 1500-40404S4L-Blue	City of Sweetwater standard LED pedestrian luminaire atop 15'-0" straight round aluminum pole	Integral LED	N/A	120	As req'd			Steve Ward/Ward and Burton 314-821-7800 steve.ward@wardandburton.com
SC	Kim Lighting LTV82FF-WW-18L-4K-UV	Direct burial, LED adjustable accent light for illumination of architectural elements.	Integral LED	N/A	30	120-277			Tyler Kisro/L.E.C. & Company 314-298-7500 tyler@lecltg.com
SD	Kim Lighting LTV81FF-SP-36L-4K-UV	Direct burial, LED adjustable accent light for illumination of palm trees.	Integral LED	N/A	50	120-277			Tyler Kisro/L.E.C. & Company 314-298-7500 tyler@lecltg.com
SF	Kim Lighting LTV83FF-NF-12L-4K-UV	Direct burial, LED adjustable accent light for illumination of trees.	Integral LED	N/A	20	120-277			Tyler Kisro/L.E.C. & Company 314-298-7500 tyler@lecltg.com
SG	Lumenpulse LBG-xx(V)-RGBW-VN-BK-DMXRDM-CRC/LBG-SN-BKM-BK	RGBW LED adjustable accent luminaire with glare shield for cable-stay illumination	Integral LED	N/A	120	120-277			Tony Randazzo/Lighting Associates 314-531-3500 trandazzo@laiweb.net
SH	Lumenpulse LBG-xx(V)-RGBW-NS-BK-DMXRDM-CRC/LBG-SN-BKM-BK	RGBW LED adjustable accent luminaire with glare shield for pylon uplight	Integral LED	N/A	120	120-277			Tony Randazzo/Lighting Associates 314-531-3500 trandazzo@laiweb.net
SJ	Lumenpulse LBL-xx(V)-RGBW-FL-BK-DMXRDM-CRC/LBL-SNW-BKM-BK	RGBW LED adjustable accent luminaire with glare shield for pylon base illumination	Integral LED	N/A	60	120-277			Tony Randazzo/Lighting Associates 314-531-3500 trandazzo@laiweb.net
SK	MP Lighting L01-1-W30S-W-F-LM-0-A-S-0-S3	Stair riser recessed LED steplight with remote driver/power supply	Integral LED	N/A	5	Prim. As req'd- sec. as req'd			Steve Ward/Ward and Burton 314-821-7800 steve.ward@wardandburton.com
SL	Lumenpulse LOG ASHRAE-xx(V)-48-35K-60x60-UMAS-BK-DMXRDM-CRC	Low power, white light LED linear fixture for illuminate of bridge deck for pedestrian passage.	Integral LED	N/A	5W/FOOT (20 watts per 4' fixture)	120-277			Tony Randazzo/Lighting Associates 314-531-3500 trandazzo@laiweb.net
SM	a-light ACL5-R40-G-LS-30-HE-U-O-E-Q	Low power, white light LED linear fixture for illuminate of transit pavilion	Integral LED	N/A	7W/FOOT	120-277			Charlie Unterreiner/St. Louis Lighting Group 314-963-3311 charlie@stlouislighinggroup.com
SZ	Meteor SH200C-B-B-H	Solar powered direct burial light			N/A	N/A			Charlie Unterreiner/St. Louis Lighting Group 314-963-3311 charlie@stlouislighinggroup.com
-	Lighting Controls for Bridge Aesthetic Lighting	DMX-RDM protocol based, timeline control system and distribution equipment needed for operation of color-changing accent lights on bridge structure							

REVISIONS					LIGHTING DESIGNER: RANDY BURKETT LIGHTING DESIGN 609 E. Lockwood Ave., Suite 201 St. Louis, Missouri 63119	DRAWN BY: RE CHECKED BY: RK DESIGNED BY: RK CHECKED BY: RB	 	SHEET TITLE:		
DATE	BY	DESCRIPTION	DATE	BY				DESCRIPTION	ROAD NO.	COUNTY
							MIAMI-DADE	BT-904	UNIVERSITYCITY PROSPERITY PROJECT	SHEET NO. L-19





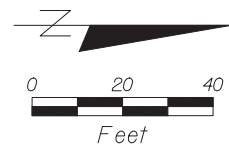
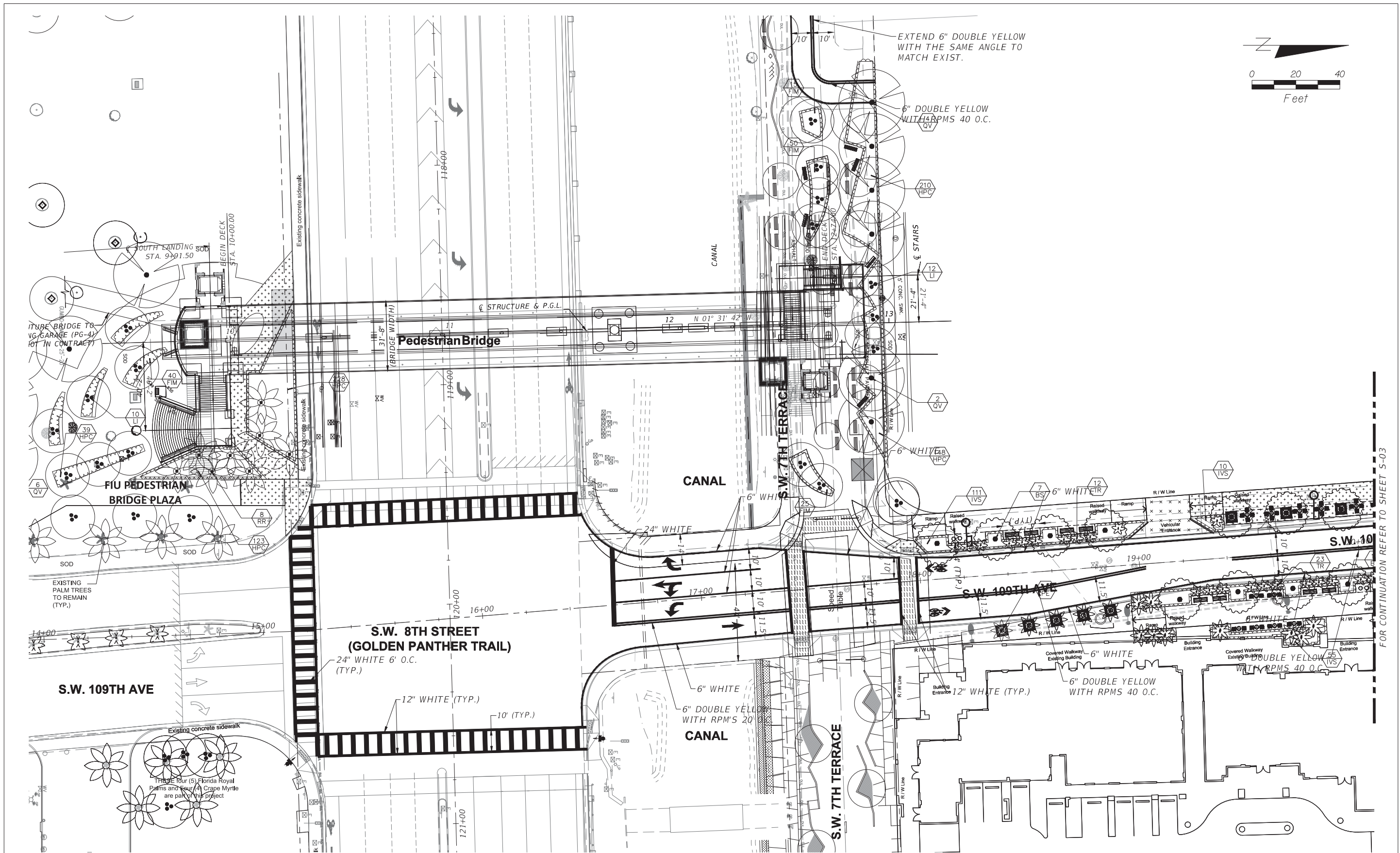
NOT FOR CONSTRUCTION PLANS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			
CHECKED BY:			
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:		MIAMI-DADE	BT-904

SHEET TITLE:	SIGNING AND PAVEMENT MARKING PLAN	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.	S-01	



FOR CONTINUATION REFER TO SHEET S-03

NOT FOR CONSTRUCTION PLANS

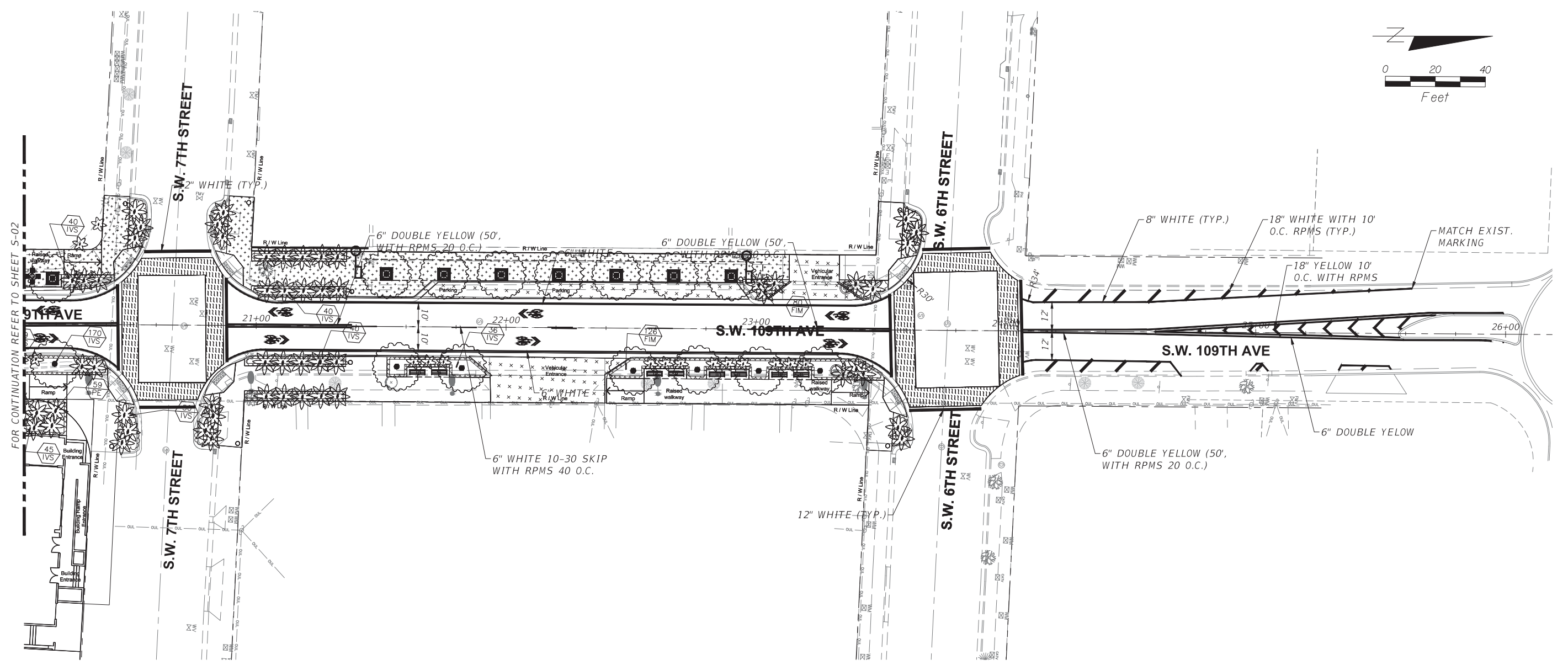
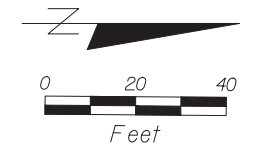
REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

UBALDO F. LENA, PE  
 PE LICENSE No. 40167  
 A&P CONSULTING TRANSPORTATION  
 ENGINEERS CORP.  
 10305 N.W. 41 STREET, SUITE 115  
 MIAMI, FL 33178  
 CERTIFICATE OF AUTORIZATION EB-0007797

DRAWN BY:			
CHECKED BY:			
DESIGNED BY:	ROAD NO.	COUNTY	PROJECT ID
CHECKED BY:	MIAMI-DADE		BT-904

SHEET TITLE:	SIGNING & PAVEMENT MARKING PLANS	
PROJECT NAME:	UNIVERSITYCITY PROSPERITY PROJECT	
SHEET NO.:	S-02	





FOR CONTINUATION REFER TO SHEET S-02

NOT FOR CONSTRUCTION PLANS

REVISIONS						UBALDO F. LENA, PE PE LICENSE No. 40167 A&P CONSULTING TRANSPORTATION ENGINEERS CORP. 10305 N.W. 41 STREET, SUITE 115 MIAMI, FL 33178 CERTIFICATE OF AUTHORIZATION EB-0007797	DRAWN BY: 	SHEET TITLE: <b>SIGNING &amp; PAVEMENT MARKING PLANS</b>
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			
						ROAD NO. COUNTY PROJECT ID <b>MIAMI-DADE BT-904</b>	PROJECT NAME: <b>UNIVERSITYCITY PROSPERITY PROJECT</b>	
							SHEET NO. <b>S-03</b>	

Filename: P:\Technical Proposal\FIU Pedestrian Bridge\CADD\archive\Roadway\Plans S&P Marking - Plot Date: Sep. 28, 15